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It's the best selling weekly

Vol 4 No 13

Confusion hits US

IBM has pulled out of the US home computer market, only one week before Atari launches the first of its new 128K machines.

At the same time Commodore has delayed the introduction of its new LCD portable machine and Atari has scrapped plans announced in January for an 8-bit portable machine.

IBM has surprised the American home computer market by announcing last week that it is to stop production of its home computer, the PC Jr, in April.

The PC Jr was by no means IBM's most popular machine, but sales had improved significantly after IBM modified its keyboard much criticised at launch. It is thought that margins were too slim on the PC Jr to justify continuing production.

Currently, competition for the home market in the US is between IBM, Apple, with the IIe and c and the Commodore 64.

In the last year or so, a number of other companies have pulled out, including Coleco, Mattel, Timex and Texas Instruments.

Of the three machines currently dominating sales, the Commodore 64 is by far the cheapest. However, Commodore International is having its own problems at the moment. After dismal financial results (see *Popular Computing Weekly* February 21) its share price has fallen dramatically. Six months ago, it was around 20 dollars now it is down to 10.

Commodore's image has not been improved by the announcement that its LCD portable machine, launched at CES in Las Vegas in January and due out in the Spring, has now been put back until September at the earliest.

However IBM's move does mean that Commodore's C128, positioned to compete directly in the US with the PC Jr and Apple IIc will now only have the Apple model to contend with.

"The C128 should be in the stores in May," said Susan West, of Commodore International. However she declined

continued on page 4 ▶

Gremlins are here

THE OFFICIALLY licensed computer game of *Gremlins* – the record-breaking feature film – has now been issued by Adventure International.

Gremlins the game, is a graphics adventure featuring simple animation in some of the sections follows the characters and settings of the film quite closely. The player is Billy, hero of the film whose task it is to save the town of Kingston Falls from take over by Gremlins.

Although there are versions of the game for the Spectrum, Commodore 64, Commodore C16, BBC and Electron, only the first two machines' versions feature graphics, using the detailed comic-book style found on other Adventure International games such as *Hulk* and *Spider Man*.

The text input for the adventure is sophisticated allowing for multiple-statement lines and full sentences.

Prices for the graphics versions of the game are £9.95, other versions £7.95.

Details from Adventure International, 85 New Summer Street, Birmingham B19 3TE.

Consortium set to buy Oric

IT NOW seems certain that Oric Products International will eventually be bought by the consortium made up of its former managing director, Barry Muncaster, Peter Harding, head of Oric Products Export and ASN, Oric's distributors in France (see *Popular Computing Weekly* March 21).

A contract is currently in the hands of the consortium's lawyers, and it is expected to be signed this week.

SPECIAL QL TAPE OFFER ONLY £4.95 SEE p5


THE
LIVING
BODY

Vol 4 No 13

POPULAR Computing WEEKLY

View

IBM's decision to pull out of the US home computer market comes as something of a surprise

In this country IBM is not a name naturally associated with home computers but in America where the average disposal income is far higher, its PC Jr sells mainly to individual purchasers, competing with the Apple II models and Commodore's C64.

When it was launched 18 months ago the PC Jr model got off to a bad start with poor reviews and disappointing sales However, late last year IBM took heed of the criticisms and modified the design. Following the improvements sales began to pick up and prior to IBM's unexpected announcement its future seemed assured.

IBM gave as its reason for discontinuing the PC Jr the small margins on home machines – not enough profit

It is interesting that production will cease in the same week as Atari, quintessentially the aggressive consumer electronics company, embarks on a major new attack on the domestic market

The maxim in business that 'nobody ever got fired for buying IBM' doesn't apply when selling into the home Prestige, construction quality, warranties, insurance, maintenance contracts, and the security of knowing the company will still be in business in ten years are far less important in the home computer market than price

IBM's decision is a lucky one for Commodore, Atari, Apple and even Sinclair If it had the whim to do so, IBM could easily put all the others out of business Forecasts predict that within two years the annual turn-over of IBM will overtake the Gross National Product of Australia and New Zealand combined.

Presents...

Futures...

Synthesiser on Commodore 64 ... Part 1 of a super-fast index creator for the BBC ... all at sea on the Amstrad

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How to submit articles Articles which are submitted for publication should not be more than 2000 words long The articles and any accompanying programs should be original It is breaking the law of copyright to copy programs out of other magazines and submit them here — so please do not be tempted **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish although we will always try our best to make sure programs work

Computer Trade Association Magazine of the Year

US launch of Sinclair QL further delayed

SINCLAIR RESEARCH's managing director Nigel Searle, is to next month move to the US

This follows a further delay in the US launch of the QL – now scheduled to go on sale on a mail-order basis in May

Nigel Searle will head the operation, starting on April 1 He originally set up Sinclair's US office in Boston three years ago, before becoming managing director of Sinclair Research in the UK

His place in the UK will be filled by two joint managing directors Dave Chatten, who was Sinclair's product director, becomes managing director in charge of computers and Bill Jeffrey, formerly divisional director at Mars Electronics joined Sinclair as managing director for TV and communications on March 1

Both will report to Sir Clive Sinclair as chief executive Sir Clive is apparently keen to take a bigger part in the day-to-day running of the company

■ Following the disappointing recent profit figures and management changes Sinclair shares have been reported to be changing hands in off-market dealings at around half the price paid by investors two years ago

PC Jr dropped

◀ continued from page 1

to comment on the implications of Commodore's falling share price, or on speculation about the Amiga machine

Rumours – hotly denied by Commodore – are currently circulating the US that Commodore and Amiga are arguing over the terms of Commodore's acquisition of the company – the price being based on Commodore's share price when the stock was evaluated at around $20

However, IBM's withdrawal may be good news for Apple, which recently had to suspend production on its computers because stocks were too high

One company that is confident of benefiting from the moves is Atari Jamie Copeland, vice-president of marketing at Atari Worldwide said "This news can only be healthy for Atari – our 130 XE machine will be shipped in the US next week and priced at around $150 It's as powerful as the Apple machines, yet the Apple IIc is $800 The 130 ST is being shipped at the end of April "

However, Copeland did admit that the 65XEP, the portable machine in the 8-bit range would not now appear ' We're doing a 16-bit version instead – that'll probably appear in June "

Uncertainty following QS moves

QUICKSILVA is moving premises from Southampton to London The company will be housed in parent company Argus Press Software's offices in the West End

None of the eight staff at Quicksilva, including managing director Rod Cousens will be moving to London and most of the employees have already been made redundant Rod said, "I won't be going to London with the company, but at the same time, I certainly don't want to leave the software industry "

Argus maintains that the move will be more convenient for Quicksilva with tape manufacturers and duplicators nearer to hand

● Soft Aid, the compilation tape organised by Quicksilva's Rod Cousens in aid of the Ethiopian Famine Appeal, has so far sold around 40,000 copies and raised over £100,000 for the Appeal, just three weeks after its launch.

Enterprise plans 128K for June

THE 128K version of the Enterprise computer is now scheduled for launch in June

Software, too is beginning to appear for the 64K model which went on sale in January

Twelve programs are currently available which include third-party products such as *Heathrow ATC* and *Fantasia Diamond* from Hewson Consultants, Level Nine's *Colossal Adventure*, and educational programs from Widgit and Bourne

Intelligent Software's *Chess* should be released this week, and Enterprise plans 17 more titles to be released in April, including and *Assembler/Disassembler* (£29.95), *Sprite Handler* (£9 95), *Machine Code for Beginners* (£9 95), Lisp (£24 95), and a number of arcade games at £7 95

On the 128K model, Enterprise's product manager Stephen Gandy said, "The machine is going through final production approval at the moment. It will be launched in June, so we think it will be among the first of this year's 128K machines to appear "

Rocky horror from CRL

CRL'S much-hyped *Rocky Horrors Show* computer game is beginning to take shape, and the company expects to launch it soon

The arcade-adventure is, as yet, unpriced, but will be released for the Spectrum, Amstrad CPC464 and Commodore 64 machines

C64 gets new Basic extension

MICRO COMPONENT Trading has developed a new extended Basic for the Commodore 64

"MCT Basic is similar to Basic 3 5, as used on the C16 and Plus/4," said Dave Viner of Micro Component Trading "It gives you everything that 3 5 does, plus sprite and sound commands for the 64 "

MCT Basic is available only on cassette at the moment, but a Rom cartridge version is in development The Basic leaves 28K free for programming – with the Rom version, MCT hopes around 46K will be available

The cassette version of MCT Basic costs £10 95 No price details are yet available for the Rom-based version. Details from Micro Component Trading, Group House, Fishers Lane, Norwich, Norfolk (0603 666966)

James Scoular

FIREBIRD'S publisher, James Scoular, who featured in our *Street Life* column recently, tragically died from a heart attack after a short illness last week *Popular Computing Weekly* would like to extend its sympathies to all at Firebird and James's family

Firebird launches dodos

FIREBIRD is putting together a compilation games tape with a difference

The package, entitled *Don't Buy This!* is a collection of the five worst computer games that have been submitted to the company

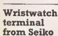
"The games are so awful that they're actually funny," explained Firebird's James Levy " We're thinking of making the tape the first in a 'lead' range of games "

The games on the tape are called *Race Ace*, *Fido 1*, *Fido 2*, *Weasil Willy* and *Fruit Machine*

"The programmers are going to do quite well out of this," said James. "For a start, we will protect them with anonymity, but they will be getting royalties

"*Don't Buy This!* will be available for the Spectrum, Commodore owners will be relieved to hear we have no conversion plans "

The package will, seriously, be part of Firebird's silver range at £2 50, and launched "somewhere around April 1 "



Wristwatch terminal from Seiko

SEIKO has announced a wristwatch terminal that can be connected to a micro via a built-in RS232 interface

The watch – called the RC-1000 – has a two-line liquid-crystal display, totalling 24 characters, and can be used for a variety of functions including an electronic memopad and diary. The watch has a capacity of 80 screenfuls of data, approximately 2K Ram.

All data is entered from the micro keyboard, and downloaded to the watch via the RS232 port. Data can also be output from the watch to a printer.

The package includes the connecting cable and software on either cassette or disc

At present, the only home computer catered for is the Commodore 64 but software should be available for the Spectrum and Acorn micros with the next eight weeks

The RC-1000 is the latest in the growing line of watches that provide databank facilities to the user.

Seiko will also be launching another device, the UC-3000 watch which has a 2K memory and provides a diary and memo facility with all data being entered from a separate miniature keyboard provided with the watch.

Prices are expected to be £119 for the terminal watch and £129 for the UC-3000. Both should be in the shops by late June.

Electron discs alternative

AN ALTERNATIVE to Acorn's Plus 3 disc drive interface for the Electron has been launched by Cumana

Cumana's Electron Interface plugs into Acorn's Plus-1 expansion module. Firmware within the interface gives facilities for a real-time clock It is compatible with both 5¼ inch and 3½ inch double-density drives

The interface costs £148 95 or £129 95 if a Cumana disc drive is bought with it Details from Cumana, Pines Trading Estate, Broad St, Guildford, Surrey (0483 503121)

Letters

Modem warning

I wish to issue a warning to future modem owners who are interested in subscribing to Prestel, the British Telecom Viewdata Service

The warning is watch out, you may be in an area which cannot get Prestel at local call rate

It was only after I had subscribed that I found out that the whole country was not at local call rate I am now going to start a battle to fight for more local call access points because having contacted my Telephone Area Office I was told that as British Telecom had been privatised that they might now have trouble making remote areas local to Prestel. The reason given for this was because other Viewdata services and databases might consider this unfair. Then I was told that if it was ever done it would probably be 'months or even years from now'.

It looks as if I will have to sell my modem soon as our telephone bills are 'through the roof' If any other Prestel users who do not get the service at local call rate would like to contact me over Mailbox to exchange views on this, my Mailbox number is 082422531

I shall fight on.

Robert Evans
Bryngias
Wrexham Road
Ruthin
Clwyd

Putting the boot in

I'm finding it increasingly difficult to reconcile the Douglas Adams who wrote *Hitch-hiker's Guide* to the *Universe* for the electronic wireless with the Douglas Adams who co-operated with Infocom on the production of the video game of the same name.

The former was intensely passionate about his creation and would never have dreamed of denying it to anyone, and particularly his original supporters. The latter has gone straight for the megabucks, and stuff the people initially responsible for his success

In allowing the production of *Hitch-hiker* in a format non-compatible with the majority of British micros (Apple II) he's putting the boot into his own fans, the British computer industry, and for all he cares, the country itself.

Deke Roberts
13 Temple Road
Temple Cowley
Oxford

Expensive extra?

In your issue of March 7 you repeat the allegation the CP/M is an expensive extra for the Amstrad computer. It is in fact included as standard with the DDI-1 disc interface, which would be essential to operate Cobol anyway

Looking at my Microfocus and Microsoft (for both supply a Cobol for 8-bit CP/M) price list shows that they both exceed the cost of a CPC464 (including monitor) plus a DDI-1 disc interface!

R Perry
Technical Manager
Amsoft
Brentwood House
169 Kings Road
Brentwood
Essex

Two-day task?

Writing to your magazine seems to be becoming something of a habit. However, I feel I should reply to Chris Powell.

My previous letter did not "bash" the QL or the 68000 It merely stated that the market had to be bigger before it would support a larger number of programs

I will repeat that learning to use a new processor chip is a two day task for a proficient programmer

Microprocessors operate in fundamentally the same way. It is merely a case of looking at the architecture of the machine, seeing what addressing modes it can handle, and checking out the few machine specific instructions The fact that Mr Powell is unable to do this in two days does not mean that others can't.

Andy Lawrie
Technical Director
Mikro-Gen
23a Station Road
Ashford
Middx

Spectrum power

I've just read Vol 4 no 10 in which D Walker wants to evaluate expressions held in strings on the Sinclair QL which apparently can be quite easily achieved using the VAL command on the Spectrum.

I think that this shows the power of the Spectrum rather than any 'serious limitation' of the QL since many Basics (eg, the well-respected Microsoft Basic on the TRS80) cannot handle such operations

Andrew Pritchard
20 Finlay Gardens
Crouch Oak Green
Addlestone
Surrey

More frustration

Articles that I read in *Popular* that continue the piracy debate or announce the latest protection device leave me more and more frustrated.

The addition of microdrives to a Spectrum have vastly improved the enjoyment of computing for many people, but anti-pirate devices destroy the efficiency of it all and leave us tearing our hair out struggling through the tricky loadings, etc, trying to move programs onto microdrive

If we could seriously believe that protection systems have reduced piracy I would be a little more understanding, but evidence suggests they have not. In your columns I have repeatedly seen suggestions to publishers to include a save-to-microdrive option, but very few have done so

Even Sinclair themselves have been obstructive by trying to supress the publication of details in the Interface 1 Rom in order to preserve program security, thereby cutting their own throats to allegedly save software companies from piracy.

The outcome of this is that most microdrive owners must resort to a microdrive backup package which inevitably includes a tape copier as well.

Barry Elits
35 Villa Road
London SW9

Illustrated method

D Walker (letter, March 7th) poses an interesting problem where the QL's coercion of strings to variables doesn't seem to make up for the lack of a *Val* command. There is a way around this, but I *don't* claim any elegance for it

The program below illustrates the method, and could easily be converted into a procedure

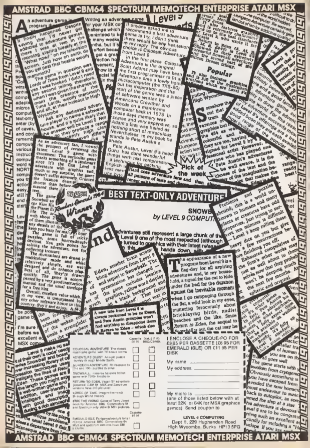
```
100 a$="54*34/10"
110 DELETE mdv1—string—fil
120 OPEN—NEW #4,mdv1—string—fil
130 PRINT #4, "160 a=" & a$
140 CLOSE #4
150 MERGE mdv1—string—fil
160 REMark this line will be replaced
170 PRINT a$,a
```

On running, the string a$ is "54*34/10", variable a becomes 183 6, and a listing of line 160 shows it changed to 160 a=54*34/10

On another subject, has anyone managed to use the printer option in Psion's *QL Chess* successfully? Mine prints gibberish although the printer works very well with the bundled software

W D Software
Hilltop
St Mary
Jersey
Channel Islands


QUASIMODO
synsoft
but those nasty soldiers think
Quasi didn't steal them!
to leave him alone. They fire
Quasi doesn't want to, but
64
ATARI
DISK £14.95
CASSETTE £9.95
BOOTS · WH SMITH · JOHN MENZIES
WOOLWORTH · WILDINGS
The Parkway Industrial Centre, Heneage Street,
U.S. GOLD
All American Software
ocean
A U.S. GOLD/OCEAN JOINT PRODUCTION



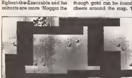
AMSTRAD BBC CBM64 SPECTRUM MEMOTECH ENTERPRISE ATARI MSX
BEST TEXT-ONLY ADVENTURE
SNOWBALL
by LEVEL 9 COMPUTING
Pick of the week
Adventures still represent a large chunk of the ... Level 9 one of the most respected (although ... turned to graphics with their latest releases ...
The appearance of a new program from Level 9 is a flag-day for all aspiring adventurers and, in my household, a signal for the cat to hide under the bed for the duration against the inevitable moment when I go rampaging through the flat, a wild look in my eye, muttering ferociously about bricklaying birds, nudist beaches and the like. Since Return to Eden, the sequel to Snowball is out, the cat may be
A new title from Level 9 is always reckoned to be an Event, and Pete Austin groupies won't find anything to disappoint them in Return to Eden – which also
Cassette £9.95
Disk £11.95 BBC/CBM64
COLOSSAL ADVENTURE
ADVENTURE QUEST
DUNGEON ADVENTURE
SNOWBALL
RETURN TO EDEN
LORDS OF TIME
ERIK THE VIKING
EMERALD ISLE
I ENCLOSE A CHEQUE/PO FOR £9.95 PER CASSETTE (£6.95 FOR EMERALD ISLE) OR £11.95 PER DISK
My name
My address
My micro is
(one of those listed below with at least 32K or 64K for MSX graphics games) Send coupon to
LEVEL 9 COMPUTING
Dept 8, 229 Hughenden Road
High Wycombe Bucks HP13 5PG
AMSTRAD BBC CBM64 SPECTRUM MEMOTECH ENTERPRISE ATARI MSX

Reviews

Catapaulted

Program *Viking Raiders* **Price** £2.50 **Micro** Spectrum 48K **Supplier** Firebird Software, Wellington House, Upper St Martin's Lane, London WC2H 9DL

From the mists and ice floes of the north they came, long ships striking terror into all who beheld them. That was the reality, but Egbert-the-Execrable and his cohorts are more 'Noggin the Nog' than rape and pillage.



Still, *Viking Raiders*, Firebird's first wargame, is option packed as well as action-packed, including freezing fjords, battling boats, catapults and castles and up to four armies played by humans or computer. It's enough to drive a Norseman to drink – which is what happens whenever they encounter a drinking horn and go uncontrollably berserk.

The character block graphics are unsophisticated but serve their purpose, and a colour monitor is needed to differentiate the armies. Movement and missile fire are by an eight point compass, doing away with grid references, thank Odin!

There's an economic element to the game too, as human players have limited wealth to equip themselves, though gold can be found in chests around the map. The computer has boundless riches and unlimited catapult range, presumably to compensate for its inferior tactics.

This is what board wargamers call a 'beer and pretzels' game, it's not too serious, but it's fun to play.

John Minson

Phonetic

Program *Varitalk* **Price** £5 **Micro** Spectrum 48K **Supplier** ITS Software, 25 Park St., Cirencester, Glos

Apparently 'M1A2R1E1' means 'Mary' – at least it does to *Varitalk*, a speech synthesiser which uses phonetic codes. A speech synthesiser in *Software Reviews*? Yes, because this program stems from its author's refusal to pay £30 for the hardware equivalent.

Despite rather insubstantial documentation speech is simplicity itself. Load the machine code and you're returned to Basic, speech goes into a string and is summoned by a *Usr* command.

You can use the phonetic codes very easily from the enclosed list. For example there are different 'A' sounds from 'Fate' (A1) to 'Pause' (A6). A2 is given as 'Bare' so it's also used for 'Mary'.

The speech sounds rather tinny but is recognisable, despite some echo. It's also somewhat soft through the internal speaker. Though the instructions don't say so, Basic programs can be *Saved* and *Loaded* as normal, but *Varicode* must be re-*Loaded* first, leaving only 9K of memory which limits its uses.

However, at this price it's fun. I've booby-trapped mine to swear at anybody who touches it.

John Minson

Into space

Program *Buck Rogers* **Price** £8.95 **Micro** Commodore 64 **Supplier** US Gold Ltd, Unit 10, Parkway Industrial Estate, Heneage Street, Birmingham.

"Hot from Sega the arcade winners" (even though it was released in 1983 in America) comes *Buck Rogers* – a space adventure set in the 21st century. I don't know if you can remember the arcade version, but I loved it – fast-moving, space-zapping action. Now *Buck Rogers* is available on the CBM 64. Strap yourself in tight, though, because as we all know, life's tough on the space highways.

The screen shows your spaceship as it skims along the planet's surface, with the terrain and enemy installations scrolling towards you. As you dodge and weave through radar towers, a certain number of aliens have to be destroyed.

After annihilating three waves of intruders, you move out into space and do battle, this next stage is similar to the intermediate level on *Zaxxon*. Finally, you have to destroy the enemy mother-ship.

Buck Rogers might sound exciting, but I found it a bit dull. Surprisingly, the graphics were only average, and the play action lacked appeal. However, the sound really brightened up the program – lots of sci-fi effects and space music. But all in all, *Buck Rogers* was a bit of a disappointment. It's also rather pricey when compared to Mastertronic games.

Tom Hassey

Identified

Program *French on the Run* **Price** £2.95 **Micro** BBC B **Supplier** Silversoft

Imagine you are stuck in occupied France during World War II. To avoid the Gestapo and reach freedom you must pass as a native. Is your French good enough? Can you recall your stolen identity card details when under interrogation?

With superb timing Francis Clarke and Gabriel Jacobs have produced the most novel and enjoyable way yet of revising French conversation. The scenario is a genuinely exciting adventure game with the key to progress – or to nasty death – being how well you recognise accurate French. There are enough choices and variations to make repetition a pleasure.

At each decision point you are offered four options. After each choice is made the false answers vanish and if you have chosen correctly a "ping" announces your success and you go on. A rude "burp" indicates a mistake and probable doom depending on where you are in the game.

The cassette comes complete with attractive loading screen playing *Under the Bridges of Paris* – terribly atmospheric.

Dave Watterson

Steel nerves

Program *Aqua Racer* **Price** £6.99 **Micro** Commodore 64 **Supplier** Bubble Bus Software, 87 High Street, Tonbridge, Kent

If you liked *Pole Position*, then you'll just love *Aqua Racer*. This game was created by Richard Clark, author of *Bumping Buggies* and it possesses the fast-moving, highly addictive action of its predecessor.

You climb into the sleek *Aqua Racer* and wait in anticipation for the starting gun to fire. The mighty engines of the powerboat roar as you accelerate into position. The race is on!

Initially, things are easy, but that soon changes. Slipping into high gear, you flash past your first opponent on the inside. Watch the bend, don't go too fast. As the track straightens out you are swiftly approaching your next challenger. He takes the inside of the next bend, but you outmanoeuvre him and race past on the outside. No-one can stop you now.

Twenty different courses can be attempted, and they all have to be completed inside the time limit if you wish to reach the next level. A practice mode is also available in which you can try out the course without any opposition.

The graphics and sound are fine, but the thing that really "makes" this game is the excitement created by the actual race. A game for people with nerves of steel.

Tom Hussey

Overheads

Program *Entrepreneur* **Price** £24.95 **Micro** CPC 464 **Supplier** Amsoft, Brentwood House, 169 Kings Road, Brentwood, Essex CM14 4FF

Maggie Thatcher said once that what this country needs to set it straight is more small businesses, and for all the budding Arthur Daleys who want to take her up on the idea *Entrepreneur* is an essential purchase. Seriously, though, if you are one of those near legendary small businesses that we are often being told really do get by with 8 bit home micros, this package could possibly represent the best £25 you ever invest.

In common with all of the Brainpower series of programs written by Triptych Software, you receive a teaching tape, an applications tape and a truly superb manual. Together they form an adult educational/utility package of unsurpassed quality. The bulk of the manual teaches the essential basics of balance sheets, accounts, business tax, cash flow and profit, etc – all the factors which underlie a successful business, but are too easily overlooked.

The applications tape requires you to enter a lot of data about the expected sales, costs, revenue, debts, production capacity, overheads, number of employees, that you expect your business to have. Once entered, the program shows the way your company will develop, highlighting problem areas where your cash, your profit, your raw materials or whatever will run out and also, if you wish, how changes in your pricing costs, or sales figures will influence the health of your finances. If the situation looks sufficiently favourable you can have your projections printed out to present to your bank manager who, overwhelmed by your thoroughness, will cough up the necessary readies without a qualm.

My only reservation about the package is that Triptych should be prepared to offer updates at regular intervals to take account of changes in VAT, etc. Not only a potential lifesaver for some people, this should also find a place in schools and colleges all over the country.

Tony Kendle

Breezy

Program *Mountain Palace Adventure* **Price** £7.95 **Micro** CPC 464 **Supplier** Ducksoft, The Old Piano Factory, 43 Gloucester Crescent, London NW1 7DY.

Following in a long line of traditional text-only adventures, this game certainly doesn't break new grounds in terms of plot. You wander around in strange fantasy/dungeon locations collecting treasure and solving puzzles that consist largely of trying to find the right verb-noun combination and nominating the correct object to use. Neither is it a display of technical brilliance, indeed there is a generous credit given to Pete Gerrard's book, *Exploring Adventures on the CPC 464*.

Location descriptions are quite brief, puzzles are not too difficult, required logic is typically incongruous and disjointed, etc, etc. Yet, despite all these apparent limitations, I really did like this adventure. There is an underlying bright and breezy enthusiasm that spills out in the various messages, hints and comments and makes you smile as you decide to play on for just a little bit longer. Before you realise it, you're the only one awake in the small hours, square eyed and addicted once more.

For people looking for an adventure that will be days, rather than months, in the playing, has a light atmosphere, lacks cynicism yet doesn't take itself too seriously, is fairly well thought out and error-trapped, then this could be the one for you.

However, I can't help feeling that on the Spectrum you could have picked this up for £4.95. I'm all for encouraging small companies, but for the degree of skill and effort that went into this it shouldn't compare in price with marvels like *Sorcery*.

Tony Kendle

Liberate

Program *Electro* **Price** £3.95 **Micro** Spectrum 48k **Supplier** 5D Software, 12 Fleming Field, Shotton Colliery, County Durham DH6 2JF

5D are a new name in software and this entry into the budget market contains three programs at a lowish price

Electro is a maze game, where your joystick has to tempt marauding castles, ranging from telephones to BBC Bs, to their deaths, then liberate a Spectrum before time runs out

While it contains much Basic and so is not desperately fast, difficulty has been fairly well judged. The baddies behave reasonably 'intelligently' but there is too much duplication between screens to hold the attention for long It could suit younger players though

Death Reprieve and *Time Machine* are both 'adventures' (I use the term lightly), and again they're in not very well protected Basic. To be honest, neither would look out of place in a book of listings Vocabulary is limited, puzzles uninspiring, location descriptions brief and *Time Machine's* graphics are laughable

Even the junior end of the market would probably be bored by these

In fact they're so dull you're effectively paying £3.95 for *Electro* and it just isn't worth it

John Minson

Barbaric

Program *Shades* **Micro** Commodore 64 **Price** £9.95 **Supplier** Durell Software Ltd, Castle Lodge, Castle Green, Taunton TA1 4AB

Sir James Barry once wrote that dying would be a great adventure However, I doubt if his hero Peter Pan would have enjoyed playing *Shades*. There is certainly plenty of dying, but it usually gets in the way of the adventure

Billed as a fully animated 3D adventure, *Shades* was written by Nigel Dewdney of *Scuba Dive* fame The aim of the game is to fight your way through the barbaric land of Arulan, and eventually defeat the curse of evil On the way, you can expect to do battle with various monsters, and suffer the curse of Shades This causes people to disappear from one of the 84 locations and then appear somewhere completely different

As is usual with this sort of game, you can collect various objects to help fulfil your quest. Crossbow, bolts, orbs, diamonds, lamps, etc, all come in useful Unfortunately, unless you are adept at using ten toes on the keyboard whilst reserving both hands for joystick operation, you may well suffer a nervous breakdown.

Perhaps the high point of *Shades* is some very interesting graphics I particularly liked the waterfall effect and the monster that resembled an electronic

Despite a good storyline, for me, this game just doesn't seem to come off. Maybe it's because it lacks that vital but indefinable quality – "playability" A good try, but not quite there

Tom Hussey

Data files

Program *QL Sprite Kit* **Price** £19.95 **Micro** QL **Supplier** Digital Precision, 91 Manor Road, Higham Hill, London.

Although the QL has good graphics potential SuperBASIC does not easily allow the placing of shapes on the screen, only lines and arcs You can use user-defined graphics, but they can only be 2-colour, and for proper graphics you need multi-coloured sprites This package from Digital Precision gives you just that, easily used from Basic

The cartridge comes packed with files, consisting of the actual machine code, three demo programs, and numerous data files for the sprites used in the demos. The first thing to do is load the machine-code extensions, and these take up a measly 1.5K while adding four extra commands to Basic The next thing I did was load up the demo program, which showed a bird flying across the screen, behind one wall and in front of another While the demo will not give Ultimate sleepless nights, it does show the potential of the system.

When you want to get around to designing your own sprites, you'll find the Design program written badly in Basic While the idea behind it is sound, the implementation is very sloppy; the cursor, which is supposed to move around a grid, actually demolishes the grid as it goes! Sprites can be up to 24 × 32 pixels wide, and each pixel can be any colour Obviously the bigger the sprite, the more memory it takes, and when you have designed it to your satisfaction you can save it to cartridge After this the program simply stops, and to restart it you actually have to type Run – have these people not heard of *Goto*?

There can be up to 16 sprites at once, and each sprite can have 16 different 'frames' – for example, a man jumping could have four frames – one for when he is on the ground, one for his way up, one at the top, and one for his descent Sprites also have priorities, so that they can pass behind others, though this does not work perfectly with some colour combinations There is also collision detection, off screen detection, and instant reversal for moving in opposite directions

Writing your own programs is made easier by the 'skeleton' program supplied that contains the basic bits of code, then you add features as you need them. Apparently it's perfectly OK for you to use the routines in your own code for commercial programs, though as no machine-code entry points are given it's unlikely that it will be used commercially very much The sprites produced are very good, so long as you don't mind batting with the crude editor

Andrew Pennell

Spark of an idea

***Graham Taylor** talks to Sandy Mackenzie of Creative Sparks*

Thorn EMI is a very very big company. In fact there aren't many companies bigger than Thorn EMI. Amidst the household appliances and Duran Duran can be found the Thorn EMI home computer software division, Creative Sparks. Creative Sparks is not big. In fact, in terms of full-time staff Creative Sparks is small – I mean what would you call a total of four employees?

Of course, it isn't quite that simple. For one thing the programs the company releases are all bought in from outside programmers – usually freelancers who have done work for the company in the past. Nevertheless, all the organisation, commissioning, development ideas, program evaluation and administration happens in a smallish office in central London.

Sandy Mackenzie, an amiable Scotsman, heads the operation and I asked him about Creative Sparks' relationship with Thorn. "Although we were funded by Thorn we operate pretty independently. We usually don't need to refer elsewhere for decisions and we operate our own budget now."

The Thorn involvement in computer software happened quite a while before Creative Sparks was set up last April, developing from interactive video projects. Sandy and another member of the team, Peter Chandler, had been with Thorn from that time. Sandy: "The home computer software happened by accident and grew out of interactive video – people tend to forget that before Creative Sparks, Thorn had already been successful with Atari products like *Submarine Commander* and *Jump Jet Pilot*."

The reason Thorn EMI computer software became Creative Sparks is simple: "Creative Sparks is a better name." The other big change about this time was the making redundant all the in house programmers. Why was this? "Well, many of them are still employed by us on a freelance basis – we simply decided that using a system of freelances, putting people together where necessary to form temporary teams and having a wide catchment area for different kinds of skills was a better way of doing it."

Creative Sparks is, with the occasional exception, fairly strict about the machines it supports, ie, the Commodore 64 and the Spectrum. "It really is a two machine contest at the moment, although the Amstrad CPC 464 is beginning to look very strong. Certainly those are the only machines I anticipate strongly supporting next Christmas and perhaps some time beyond that."

The most successful Creative Sparks title to date has been *Danger Mouse in Double Trouble*, an arcade game based closely on the very successful children's cartoon series. It would seem like a classic example of powerful Thorn muscle buying up expensive TV rights, but it isn't quite like that. "Actually we have known Cosgrove Hall, which developed the TV cartoon, for a long time, and the game was created using its designs for character animation and the like. The whole look of the game was very much the result of its efforts."

Creative Sparks is shortly to join the budget software bandwagon with a new range, called Sparklers, expected to retail for £2.50. Sandy explained the move. "One thing that is becoming apparent is that the industry is polarising into two price bands and the provision of a budget price is basically a good thing – it means it's that much more difficult to put out average material at a high price."



Products in the new range will come from the 'almosts' – the programs sent to Creative Sparks that aren't quite good enough for the full price range. "We get dozens of submissions, some of them are obviously pretty poor, but there are quite a lot which are good, but perhaps not as original as we'd like. Still we can put out some very playable games for a low price."

Licensing films, books and the like is obviously something that is uppermost in Creative Sparks' minds, since Thorn owns a fair number of likely titles already in its extensive film division, but I wondered if there might ever be a tie-up with another major area of Thorn interest – records.

The idea of linking a group to a computer game is obviously a very potent one and Thorn EMI has a great many successful rock groups on its labels. Sandy however, was non-committal. "You can say that it is a pretty obvious thing to look into but there are problems with doing it properly.

"If we do a link-up with a group we would want them to be heavily involved with the project and it's very hard pinning down a big name group for the amount of time it would take – the other problem is that the definition rock groups are about music and it still isn't possible to do music really well on a home computer."

One thing Sandy is backing is a shift in the computer market away from games. "I think the market is changing – the growth rate is slowing.

"The old styles of game won't do on the new powered machines coming out this year. Obviously games will have to get even more sophisticated but really, I think the future will lie with personal development programs and greater use of network links.

"We have two new programs coming out roughly along these lines: a sophisticated *Painter* program for the Spectrum and a music program for the musically illiterate should be around by autumn. In a sense 'self improvement' packages are very much what's already happening in America."

I wondered what the Thorn EMI higher command make of Creative Sparks. "I think some of them don't realise we're part of the same company. Working here is not like working for the usual large international concern – we all have a definite commitment to what we're doing and we have to be very flexible in our outlook. It's a weird industry when you come to think about it."

It certainly is.

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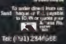
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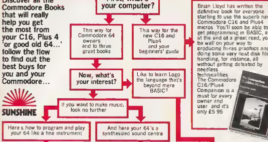
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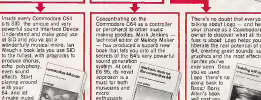
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Hardware *Simplex 256K RAM* **Micro QL Price** £198 **Supplier** Simplex Data Limited, Free Post, 432 Greenford Road, Greenford, Middlesex UB6 8SG

Many of you may wonder why the QL needs any extra Ram The answer is that there are two main advantages, the first is that Basic can run 20% faster and machine code 55% faster when stored in this Ram because the on board Ram is slowed down by the screen hardware The other advantage is that many of the large programs like *Quill* which normally have to load information from tape, can now store this information in the extra memory.

The Simplex board is a very compact unit and when plugged into the QL is only just visible The board is made up of the new 256K Rams chips and space has also been left for another 256K so you can take the board up to a full 512K The cost of this upgrade has been set at £198 you can, of course, buy a 512K board, but this will cost you £396 or there's a 64K board for just £99 90

Apart from a number of small changes to the board due to Sinclair changing the specification of the QL's expansion port design a number of times, it is very well-built. The only problem which could appear when using the 512K version of this board is that the power supply may over-heat



The extra Ram is noticeable as soon as you reset the machine, the initialisation sequence now takes longer as QDOS does its memory checks The next time you are likely to notice it is when you load a program like *Quill* (version 1 0)

Until now *Quill* has relied heavily on the microdrives for holding data, but with the extra memory it is able to load in the overlays and still have a vast amount of memory free

If you own the new versions of the Psion programs the main improvement is in the amount of information you can store

At the moment I can see only one problem with buying a Ram board This is the fact that you end up with a 384K computer with 100K storage system and the idea of having a program spread across a number of microdrive cartridges does not appeal somehow Of course you can always buy a disc drive system, but only one board can be plugged into the QL at a time until someone produces a motherboard

Overall it's a nice product and if you want more memory for your QL, I would recommend a board like this as you can then upgrade to 512K when the price of the Ram chips drops

Roger Thomas

Computers In Control

Fancy building the *Popular Computing Weekly* buggy? Here is another chance to order the kit

Popular Computing Weekly has arranged with Greenweld of Southampton to produce a kit consisting of everything you need to produce the buggy

There are slight differences between the kits required for each micro so make sure you indicate clearly which micro you own Prices are as follows

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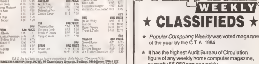
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Antex soldering kit	£5 95	
Total payable		



Kingdoms

Fancy yourself as a Dictator? Than try this strategy game for megalomaniacs for the CBM64 by *James Marsden*

The object of the game is to survive 20 years as President of a small republic whose economy runs on sacks of corn If you survive the term in office you are given points which, if high enough, allow you to enter your name in the 'Greatest Presidents ever' table

To control your republic you must decide how much corn to feed the people with, plant in the ground to grow, buy land, or sell land to obtain more corn. If you give more food than necessary you will gain subjects, conversely too little food and people will starve.

If you starve too many people in one year there will be an assassination attempt. There are random elements in the game such as guerilla attacks or help from international aid so no game is ever the same

When playing the game you can press 'F1' to quit or 'F7' for a recap on rules and instructions. If you find the game to hard or too easy you can change the values of the variables at lines 170 and 180 The main variables are.

Sa	– sacks of corn to start
Su	– subjects to start
Ac	– acres to start
Feed	– sacks needed to feed one person
Plant	– sacks needed to fill one acre
Pplant	– sacks one person can plant

The listing has control characters substituted by words in square brackets This makes the listing easier to read Graphic characters are shown by a [G>] or a [G<] The < means cbm shift and the > normal shift.

```
1 REM ################
2 REM #              #
3 REM #   KINGDOMS   #
4 REM #              #
5 REM #      BY      #
6 REM #              #
7 REM # J.H.HARDEN   #
8 REM #              #
9 REM ################
10 CLR DIMHA$(11) HA(11)
20 FORY=1TO10 HA$(Y)="PRESIDENT MUMMM[10SPC]" AO$(Y)="000000" NEXT
30 CP=53282 POKECP,0
40 PRINT"[CLS][WHT][2CR]"CHR$(142)CHR$(8)
50 POKECP-2,0 POKECP-1,0
60 POKE53265 0] POKECP+2,6 POKECP,5 POKECP+1,7
70 GOSUB2700
80 PRINT"[2CD][2CR][WHT]YOU HAVE BEEN ELECTED PRESIDENT OF"
90 PRINT"[CR][CR]MU]ARI IN AFRICA FOR A PERIOD OF"
100 PRINT"[CD][CR]TWENTY YEARS."
110 PRINT"[2CD][20R]PRESS "
120 PRINT"[10CR][ACR][REV]F1[OFF] [WHT]FOR INSTRUCTIONS."
130 PRINT"[CD][10CR][RED][REV]F3[OFF] [WHT]TO ACCEPT OFFICE."
140 PRINT"[CR][10CR][RED][REV]F5[OFF] [WHT]TO QUIT."
150 PRINT"[CD][10CR][ACR][REV]F7[OFF] [WHT]HI-SCORES"
160 POKE198 0 RA=1
170 SA=2000    SU=300    AC=50    YR=1
180 FEED=4    PLANT=0    PPLANT=3
190 F1=SA F2=SU F3=AC
200 GETA$
210 IFA$<CHR$(133)ORA$>CHR$(136)THENGOTO200
220 ON(ASC(A$)-132)GOTO2900,270 2730
230 IFA$="[F7]"THENGOSUB3210 PRINT"[CD][CR][BLU]", GOSUB2900 GOTO40
240 GOTO200
250 REM ######## THE GAME ##########
260 REM SELL LAND ####################
270 R=INT(RND(1)*6)+6 RA=2
280 PRINT"[WHT]" GOSUB2000
290 PRINT"[CD][CYN][CR]HOW MUCH LAND DO YOU WISH TO SELL ?"
300 PRINT"[CR]PRESENT RATE IS",R,"SACKS OF CORN."
310 GOSUB1410
320 PI=1 GOTO3000 POKECP+1,7
330 IFP>ACTHENPOKECP+1,7 PRINT"[REV][BRN]NOT ENOUGH LAND[CD][GR1]" POKECP,5 GOSU
B2960 GOTO280
340 AC=AC-P SA=SA+(P*R) LB=P
350 REM BUY LAND ####################
360 IFA<>0THENGOTO400
370 R=INT(RND(1)*6)+6 RA=3
380 GOSUB2050
390 PRINT"[CD][CYN]FOR]HOW MUCH LAND DO YOU WISH TO BUY ?"
400 PRINT"[CR]PRESENT RATE IS",R,"SACKS OF CORN"
410 GOSUB1410
420 RI=2 GOTO3000
430 IFR*P>SATHENPOKECP+1,7 PRINT"[REV]CORN]NOT ENOUGH CORN[CD][GR1]" POKECP,5 GO
SUB2960 GOTO380
440 AC=AC+P SA=SA-(R*P) LB=-P
450 REM FEED PEOPLE #################
460 GOSUB2000 RA=4
470 PRINT"[CD][CYN][CR]HOW MANY SACKS DO YOU WANT TO USE TO"
480 PRINT"[CR]FEED PEOPLE ?"
490 PRINT"[CR][GR2](",SUNFEED,"IS NEEDED TO SUSTAIN LEVEL )"
500 GOSUB1410
510 RI=3 GOTO3000
520 IFP>SATHENPOKECP+1,7:PRINT"[REV]CORN]NOT ENOUGH CORN[CD][GR1]":POKECP,5:GOSU
B2960 GOTO480
530 SA=SA-P SF=P
540 REM LAND PLANTED ################
550 GOSUB2040 RA=5
560 PRINT"[CD][CYN][CR]HOW MANY ACRES DO YOU WISH PLANTED ?"
570 GOSUB1410
580 PRINT"[CR](",SUNFEED," SACKS IS NEEDED TO FEED POP.)"
590 RI=4 GOTO3000 POKE53280 7
600 IFP>ACTHENPOKECP+1,7 PRINT"[BRN][REV]NOT ENOUGH LAND" ER=1
610 IFP*PLANT>SATHENPOKECP+1,7 PRINT"[BRN][REV]NOT ENOUGH CORN" ER=1
620 IF(SU*3)-(P*R)<0THENPOKECP+1,7 PRINT"[BRN][REV]NOT ENOUGH PEOPLE TO PLANT IT
", ER=1
630 IFERTHENPRINT"[GR1]" POKECP,5 GOSUB2900 GOTO530
640 SA=SA-P SP=P
650 REM REPORT ON YEAR ##############
660 PRINT"[CLS][GR1]" POKECP+2,0 GOSUB2700
670 PRINT"[2CD][2CR][L RED]YEAR",YR,"REPORT[CD][L BLU]"
680 GOSUB2050
690 S=INT(SF/FEED) S=0
700 IFS<>SUTHENS=SU-S SU=SU-S
710 PRINT"[CD][WHT][CR]YOU HAVE ",
720 IFS<0THENPRINT"STARVED",
730 IFS>0THENPRINT"ATTRACTED",
740 IFS=0THENPRINT"NO ALTERATION IN SUBJECTS."
750 IFS<>0THENPRINTABS(S),"SUBJECTS "
760 PRINT"[CD][CR]YOU HAVE "
770 IFLB<0THENPRINT"BOUGHT",
780 IFLB>0THENPRINT"SOLD",
790 IFLB=0THENPRINT"KEPT ALL YOUR LAND "
800 IFLB<>0THENPRINTABS(LB),"ACRES OF LAND."
810 IFSP=0THEND=0 GOTO900
820 PRINT"[CD][CR]THE HARVEST HAS BEEN "
830 R=INT(RND(1)*15)+1 D=INT(((SP*R)/100)*25)
840 IFR>12ANDR<15THENPRINT"VERY POOR" D=D*6
850 IFR>5ANDR<10THENPRINT"POOR" D=D*8
860 IFR<7THENPRINT"AVERAGE" D=D*10
870 IFR>9ANDR<13THENPRINT"GOOD" D=D*12
880 IFR=15THENPRINT"VERY GOOD" D=D*14
890 SA=SA+D
900 PRINT"[CD][CR]YOU HAVE GAINED",D,"SACKS OF CORN.[L BLU]"
910 GOSUB2050 PRINT"[PUR]"
920 IFSU<50THENGOTO1050
930 PS=((SU+S)/SF)*100
940 IFPS>39THENGOTO1480
950 PRINT"[BLU]", POKECP,4 GOSUB2960
960 IFSU<50THENGOTO1800
970 GOSUB1920
980 IFYR=20THENGOTO1900
990 YR=YR+1
1000 GOTO270
1010 REM DISASTERS ? ###############
1020 G=0 H=0 E=0
1030 RN=YR*2 IFRN>41THENRN=40
1040 IFRND(1)>.79THENG=1
1050 IFRND(1)>.79THENH=1
1060 IFRND(1)>.79THENE=1
1070 IF(G+H+E)=0THENRETURN
1080 PRINT"[CLS][BLU][CD]" POKECP+2,0 GOSUB2700 POKECP+1,2 POKECP,6
1090 PRINT"[2CR][3CR][WHT][REV]URGENT MESSAGE"
1100 PRINT"[2CR][3CR][YEL]FROM DEFENCE SECRETARY. .. ."
1110 PRINT"[CD][CR][ORN]GUERILLAS HAVE [PUR]"
1120 ONGGOSUB1190
1130 ONHGOSUB1250
1140 ONEGOSUB1310
1150 PRINT"[L BLU]"
1160 GOSUB2960
1170 RETURN
1180 REM LOSE LAND ##################
1190 I=AC GOSUB1360
1200 PRINT"LAND "
1210 AC=INT(AC-L)
1220 IFAC<1THENAC=0
1230 RETURN
1240 REM LOSE PEOPLE ################
1250 I=SU GOSUB1360
1260 PRINT"PEOPLE."
1270 SU=INT(SU-L)
1280 IFSU<1THENSU=0
1290 RETURN
1300 REM LOSE CORN #################
1310 I=SA GOSUB1360
1320 PRINT"CORN "
1330 SA=INT(SA-L)
1340 IFSA<1THENSA=0
1350 RETURN
1360 R=INT(RND(1)*RN)+1
1370 L=I*R/100)*I
1380 PRINT"[2CR][CD]DESTROYED",R,"[CL1]/ OF OUR "]
1390 RETURN
1400 REM BUBBLE SORT FOR LAND #######
1410 AR(1)=AC AR(2)=SA/PLANT AR(3)=(SU*3)/8
1420 FORT=1TO2 FORY=1TO2
1430 IFAR(Y)>AR(Y+1)THENAK=AR(Y) AR(Y)=AR(Y+1) AR(Y+1)=AK
1440 NEXTY T
1450 PRINT"[CR][GR2](AT THE MOMENT" AR(1) "IS THE MAX.TO PLANT)"
1460 RETURN
1470 REM ASSASSINATION ATTEMPT ######
1480 PRINT"[GR3][CR]TOO MANY PEOPLE ARE STARVING.THERE IS"
1490 PRINT"[CR]AN ASSINATION ATTEMPT.[L BLU][CD]"
1500 GOSUB2050 PRINT"[BLU]" POKECP,4
1510 GOSUB2960
1520 PRINT"[CLS][PUR]" POKECP+2,[1 GOSUB2700
1530 PRINT"[3CD][2CR][CYN]HIDDEN AWAY THE ASSASSIN IS AIMING"
1540 PRINT"[CR][CR]HIS POWERFUL RIFLE AT YOU "
1550 PRINT"[CD][CR]HE SQUEEZES THE TRIGGER SLOWLY AND...."
1560 FORY=1TO850 NEXTY
1570 IFRND(1)>.77THENGOTO1720
1580 POKECP+1,6 PRINT"[RED][2CR][YEL][REV]HE MISSES[OFF][PUR],THE SIRATE WERE SU
T OF"
1590 PRINT"[CR][CD]FOCUS THE POLICE CATCH HIM AND HE IS"
1600 PRINT"[CR][CD]EXECUTED YOU CAN LIVE IN PEACE. .."
1610 PRINT"[CR][CD]FOR THE MOMENT.[CR][GR3]" POKECP,1]
1620 GOSUB2960
1630 IFSA-(SU*4)-((AC/2)*8)>0THENGOTO980
1640 PRINT"[CLS][WHT]" GOSUB2700
1650 PRINT"[3CD][CR][YEL]THE RELIEF ORGANISATIONS HAVE DECIDED"
1660 PRINT"[2CD][CR]TO GIVE YOU MORE FOOD FOR YOUR AILING"
1670 PRINT"[2CD][CR]COUNTRY.THIS CONSISTS OF"
1680 Y=SU*2 SA=SA+Y
1690 PRINTY "SACKS OF[3CR][2CD]CORN "
1700 POKECP 4 PRINT"[2CD][RES]" GOSUB2960
1710 GOTO980
1720 POKECP+1,2 PRINT"[2CR][2CR][YEL][REV]HE GUNS YOU DOWN"
1730 PRINT"[CR][CR][PUR]I'M GLAD YOU RE NOT MY PRESIDENT!"
1740 PRINT"[CD][CR]YOU LASTED FOR",YR,"YEAR"
1750 IFYR>1THENPRINT"S"
1760 PRINT",[CD][GR3]"
1770 POKECP,11 GOSUB2960
1780 GOTO40
1790 REM LACK OF SUBJECTS - LOSE ######
```

Star Game

```
1800 POKECP+2,2 PRINT"[CLS][L BLU]" GOSUB2700
1810 PRINT"[2CD][2CR][ORG]YOU HAVE CALLOUSLY STARVED YOUR"
1820 PRINT"[CD][CR]POPULATION,YOU HAVE UNDER 50 PEOPLE"
1830 PRINT"[CD][CR]LEFT.YOU CAN NOT BE TRUSTED WITH"
1840 PRINT"[CD][CR]LEADERSHIP ANY LONGER IF I WERE YOU I"
1850 PRINT"[CD][CR]WOULD LEAVE VERY QUICKLY YOUR"
1860 PRINT"[CD][CR]HELICOPTER IS WAITING [CD][WHT]"
1870 GOSUB2960
1880 GOTO40
1890 REM SURVIVE 20 YEARS - WIN ######
1900 PRINT"[CLS]" POKE53265,27 YR=21
1910 C$="[WHT][RED][CYN][PUR][GRN][BLU][YEL][ORG][BRN][L RED][GR1][GR2][L GRN][L BLU][GR3]"
1920 FORY=1TO25 PRINT NEXTY
1930 FORY=1TO15
1940 PRINTMID$(C$,Y,1) GOSUB2700
1950 NEXTY
1960 FORY=1TO25 PRINT NEXTY
1970 POKE53265,11 POKECP+2,4 POKECP+1,2
1980 PRINT"[CLS][WHT]" GOSUB2700
1990 PRINT"[2CD][CP][YEL]CONGRATULATIONS."
2000 PRINT"[L BLU][CR]YOU LASTED THE TWENTY YEARS ASKED OF YOU"
2010 PRINT"[2CD][2CR][CP]AT THE END YOU HAD "
2020 G=F1-SB IFG=0THENGOTO2040
2030 PRINT"[CD][CR][L GRN]" ABS(G) "SACKS OF CORN "
2040 O$="MORE" IFG>0THENO$="LESS"
2050 PRINTO$
2060 S=F2-SU IFS=0THENGOTO2100
2070 PRINT"[CD][CR]",ABS(S),"SUBJECTS "
2080 O$="MORE" IFS>0THENO$="LESS"
2090 PRINTO$
2100 D=F3-AC IFD=0THENGOTO2140
2110 PRINT"[CD][CR]" ABS(D) "ACRES "
2120 O$="MORE" IFD>0THENO$="LESS"
2130 PRINTO$
2140 IFG+S+D=0THENPRINT"[2CD][2CR]NO CHANGE IN YOUR COUNTRY" GOTO2180
2150 PRINT"[CD][2CR]    THAN WHICH YOU HAD STARTED."
2160 FS=(AC*10)+(SU*5)+SB T=0
2170 PRINT"[CD][4CR][WHT]YOUR FINAL SCORE IS" FS "POINTS."
2180 POKECP,3 PRINT"[BLU]" GOSUB2960
2190 GOSUB3210
2200 FORY=1TO10 IFVAL(HS$(Y))<FSTHENT=1
2210 NEXT
2220 IFT=0THENPRINT"[3CD][2CR]UNFORTUNATELY THIS SCORE IS NOT GOOD"
2230 IFT=0THENPRINT"[2CR]ENOUGH FOR THE HI SCORE TABLE SORRY!" GOTO2470
2240 PRINT"[2CD][CR]YOUR SCORE IS GOOD ENOUGH FOR THE TABLE"
2250 PRINT"[4CR]ENTER YOUR NAME FROM THE KEYBOARD"
2260 PRINT"[CD][CP][REV][BLU]PRESIDENT[20SPC][BLU][CU]"
2270 PRINTTAB(12)"[REV][GRN]"
2280 POKE198,0 N$="" HL=0
2290 GETA$ IFA$=""THENGOTO2290
2300 IFA$=CHR$(20)THENGOTO2350
2310 IFA$=CHR$(13)THENGOTO2370
2320 IF A$<"A"ORA$>"Z"ANDA$<>CHR$(32)THENGOTO2290
2330 IFHL=19THENGOTO2290
2340 N$=N$+A$ HL=HL+1 PRINTA$, GOTO2290
2350 IFHL=0THENGOTO2290
2360 HL=HL-1 N$=LEFT$(N$,HL) PRINT"[CL] [CL]" GOTO2290
2370 PRINT"[CU]" PRINT"[CR][15SPC][CYN]20SPC][HOM]"
2380 N$="PRESIDENT "+N$
2390 IFLEN(N$)<30THENN$=N$+" " GOTO2390
2400 FS$=STR$(FS) FS$=RIGHT$(FS$,(LEN(FS$)-1))
2410 IFLEN(FS$)<6THENFS$="0"+FS$ GOTO2410
2420 FORY=10TO1STEP-1
2430 IFFS<VAL(HS$(Y))THENGOTO2450
2440 NEXTY GOTO2460
2450 HN$(Y+1)=HN$(Y) HS$(Y+1)=HS$(Y) HN$(Y)=N$ HS$(Y)=FS$ GOTO2440
2460 GOSUB3210
2470 PRINT"[CD][PUR]" POKECP,1 GOSUB2960
2480 GOTO40
2490 REM INSTRUCTIONS ##############
2500 PRINT"[CLS][CYN]" POKECP+2,6 GOSUB2700
2510 PRINT"[2CD][ORG][CR]YOU HAVE BEEN ELECTED PRESIDENT OF A"
2520 PRINT"[CD]SMALL COUNTRY IN AFRICA IT IS YOUR JOB"
2530 PRINT"[CD]TO DECIDE HOW MUCH FOOD TO SUPPLY TO THE";
2540 PRINT"[CD]PEOPLE AND HOW MUCH TO PLANT TO GROW"
2550 PRINT"[CD]MORE YOU ALSO HAVE TO DECIDE WHETHER TO"
2560 PRINT"[CD]BUY OR SELL LAND."
2570 PRINT"[CD][CR]IF YOU SUPPLY TOO LITTLE FOOD THERE"
2580 PRINT"[CD]WILL BE AN ASSASSINATION ATTEMPT WHICH"
2590 PRINT"[CD]YOU MAY OR MAY NOT SURVIVE [L BLU][CD]"
2600 POKECP,0 GOSUB2960
2610 PRINT"[CLS]" GOSUB2700
2620 PRINT"[3CD][2CD][CP]YOU MUST BEAR IN MIND THAT IT TAKES "
2630 PRINT"[2CD][CP]" PLANT "SACKS TO FILL 1 ACRE."
2640 PRINT"[CD][2CR]1 PERSON CAN PLANT" PPLANT "SACKS."
2650 PRINT"[CD][2CR]" FEED "SACKS FEED 1 PERSON."
2660 PRINT"[CD][2CR]LAND PRICES SELL/BUY VARY SO MAKE[7SPC]SURE YOU BUY/SELL IN"
2670 PRINT" THE CORRECT" PRINT"[2CD]YEAR."
2680 PRINT"[CD][2CR]YOU ATTRACT PEOPLE TO YOUR COUNTRY"
2690 PRINT"[2CR]BY SUPPLYING EXTRA FOOD [CD][L BLU]"
2700 GOSUB2960
2710 ONAGOTO910 200,300,460,850
2720 REM QUIT ######################
2730 PRINT"[CLS][L BLU]"
2740 POKECP,2,14 POKECP-1,6 POKE53265,27
2750 CLR END RUN
2760 REM SUBROUTINES #################
2770 REM TITLE #####################
2780 K$="[CD]SPC][G/E][G SPC][G*] [CD]SPC][GDN][CD]SPC][GDE][CD]SPC][CD][CD]SPC][CD]
][CD]SPC][GDN][G SPC][GJ][G SPC]"
2790 IFYR=21THENK$=" K I N G D O M S "
2800 PRINT"[10CR][REV][17CDSPC]"
2810 PRINT"[10CR][REV]"K$
2820 PRINT"[10CR][REV][17CDSPC]"
2830 RETURN
2840 REM DIVIDER ##################
2850 PRINT"########################################"
2860 RETURN
2870 REM DETAILS ##################
2880 PRINT"[CLS][WHT]" GOSUB2700
2890 PRINTTAB(10)"[2CD][L BLU]OFFICE YEAR[3SPC]",YR
2900 PRINTTAB(10)"[CD]SUBJECTS[6SPC]" SU
2910 PRINTTAB(10)"[CD]ACRES OF LAND ",AC
2920 PRINTTAB(10)"[CD]SACKS OF CORN ",SB
2930 PRINT"[YEL]" GOSUB2850
2940 RETURN
2950 REM WAIT FOR A KEY PRESS ########
2960 PRINT"[HOM][CD]SPC][GDP][GDR][G/E][GDS][GDSPC][GDA][GDSPC][GDN][GDE][GDY][
GDSPC][GDT][GDO][GDSPC][GDC][GDO][GDN][GDT][GDI][GDN][GDU][GDE][HOM]"
2970 POKE198,0 WAIT198,1 POKE198,0
2980 RETURN
2990 REM INPUT #######################
3000 P$="" POKE198,0
3010 PRINT"[CD][CR][WHT]>[CL][GRN]", IL=0 P$=""
3020 GETA$ IFA$=""THENGOTO3020
3030 IFA$=CHR$(133)ANDIL=0THENGOTO3100
3040 IFA$=CHR$(136)THENGOTO2300
3050 IFA$=CHR$(20)ANDIL<>0THENGOTO3100
3060 IFA$=CHR$(13)ANDIL<>0THENGOTO3180
3070 IFA$<"0"ORA$>"9"ORIL>4THENGOTO3020
3080 PRINTA$"[WHT][CL][CR]" P$=P$+A$
3090 IL=IL+1 GOTO3020
3100 P$=LEFT$(P$,(LEN(P$)-1)) IL=IL-1
3110 PRINT"[CL][WHT]<[2CL][GRN]", GOTO3020
3120 PRINT"[CL][L BLU]QUIT ARE YOU SURE ? (Y/N)-[RED][REV]" POKECP,7
3130 POKE198,0
3140 GETA$ IFA$<>"Y"ANDA$<>"N"THENGOTO3140
3150 IFA$="Y"THENPRINT"YES" FORY=1TO200 NEXT GOTO40
3160 PRINT"NO" FORY=1TO200 NEXT
3170 PRINT"[CU][3]SPC][2CU]" GOTO3010
3180 P=VAL(P$) EP=0 PRINT PRINT
3190 ONAGOTO320,400,520,600
3200 REM HI SCORES #################
3210 PRINT"[CLS][WHT]" POKECP+2,2 YR=20 GOSUB2700
3220 PRINTTAB(8)"[2CD]TODAYS HI-SCORES ARE [CD]"
3230 POKECP+1,3
3240 FORY=1TO10 PRINT"[CR][REV][BLU] " HN$(Y) HS$(Y)" [YEL]" NEXT
3250 RETURN
3260 REM ############################
3270 REM
3280 REM   CONTROL CHARACTERS USED
3290 REM
3300 REM " [WHT] " WHITE
3310 REM " [RED] " RED
3320 REM " [CYN] " CYAN
3330 REM " [PUR] " PURPLE
3340 REM " [GRN] " GREEN
3350 REM " [BLU] " BLUE
3360 REM " [YEL] " YELLOW
3370 REM " [ORG] " ORANGE
3380 REM " [L RED] " LGT RED
3390 REM " [GR1] " DRY GREY
3400 REM " [GR2] " MED GREY
3410 REM " [L GRN] " LGT GREEN
3420 REM " [L BLU] " LGT BLUE
3430 REM " [GR3] " LGT GREY
3440 REM " [CD] " CRSR DWN
3450 REM " [CU] " CRSR UP
3460 REM " [CR] " CRSR RGT
3470 REM " [CL] " CRSR LFT
3480 REM " [HOM] " CRSR HOME
3490 REM " [CLR] " CLEAR SCREEN
3500 REM " [REV] " REVERSE FIELD ON
3510 REM " [OFF] " REVERSE FIELD OFF
3520 REM " [SPC] " SPACE
3530 REM " [GDSPC] " SHIFT SPACE
```

Clocking on

Stand by your interupts and try this multi-tasking clock for the Spectrum 48K by ***Mark Snell*** *from Technique Software*

The following routine uses the Spectrum's interrupt *Mode 2* to produce a continuous digital time display in the top right hand corner of the screen

Listing 1 is the Basic program to load the machine code into memory, then to set the clock to the correct time Type this in carefully, then *Save* it before *Running* When prompted, enter the time, then sit back and watch what happens!

Should the program not work properly, reset the computer, *Load* the program again and carefully check the *Data* statements The sum of all the data items should be 20859

To switch the routine on, type *Randomize Usr 65110*, and *Randomise Usr 65120* to switch it off The following system variables should be set every time the routine is switched on.

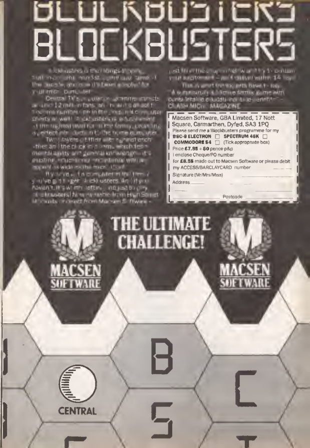
Frame (23674) contains the Hours
Frame (23673) contains the Minutes
Frame (23672) contains the Fiftieths of seconds
Frame (23681) contains the Seconds

Bear in mind that the Spectrum's *Load*, *Save* and *Beep* commands all disable the interrupts, so these will cause the clock to lose time This might be compensated for with just a few lines of Basic

```
10 BEEP 2,0
20 LET P=PEEK(23681):IF P>36 THEN GOTO 20
30 POKE 23681,P+2
```

To remove Basic listing, *New* the program then type *Randomise Usr 65110*

```
  10 REM *****************
  20 REM * CLOCK DISPLAY *
  30 REM *   by M.Snell  *
  40 REM *****************
  50 REM
  60 REM ON- RANDOMIZE USR 65110
  70 REM OFF-RANDOMIZE USR 65120
  80 CLEAR 65109: RESTORE : LET A0=65110
  90 READ A: IF A=999 THEN  INPUT "HOURS? ";H: INPUT "MINUTE
S? ";M: INPUT "SECONDS? ";S: POKE 23674,H: POKE 23673,M: POK
E 23681,S: POKE 23672,0: RANDOMIZE USR 65110: STOP
 100 POKE A0,A: LET A0=A0+1: GO TO 90
 110 REM
 120 REM SWITCH INTERRUPT ON/OFF
 130 DATA 62,9,237,71,237,94,201,0,0,0,62,62,237,71,237,86,2
01,0,0
 140 REM
 150 REM CHECK 'FRAMES' & CLEAR LINE
 160 DATA 245,197,213,229,33,120,92,126,254,50,194,210,254,5
4,0,33,23,64,14,8,62,0,6,8,229,119,35,16,252,225,36,13,32,24
4
 170 REM
 180 REM
 190 REM GET HRS, MINS, SEC
 200 DATA 33,129,92,52,126,254,60,32,22,54,0,33,121,92,52,12
6,254,60,32,11,54,0,35,52,126,254,13,32,2,54,1
 210 REM
 220 REM PRINT HRS, MINS, SEC
 230 DATA 17,0,0,58,122,92,38,0,111,205,249,254,62,10,205,21
7,254,58,121,92,38,0,111,205,249,254,62,10,205,217,254,58,12
9,92,38,0,111,205,249,254,225,209,193,241,195,56,0
 240 REM
 250 REM SUBROUTINES
 260 DATA 19,213,229,33,23,64,25,229,33,128,61,22,0,167,23,2
3,23,95,25,235,225,6,7,26,119,36,19,16,250,225,209,201
 270 DATA 1,246,255.205,4,255,125,205,217,254,201,175,9,60,5
6,252,237,66,61,24,203,999
```


BLOCKBUSTERS
Macsen Software, GBA Limited, 17 Nott Square, Carmarthen, Dyfed, SA3 1PQ
Please send me a Blockbusters programme for my
BBC-B ELECTRON ☐ SPECTRUM 48K ☐
COMMODORE 64 ☐ (Tick appropriate box)
Price £7.95 + 60 pence p&p
I enclose Cheque/PO number
for £8.55 made out to Macsen Software or please debit
my ACCESS/BARCLAYCARD number
Signature (Mr/Mrs/Miss)
Address
Postcode
THE ULTIMATE CHALLENGE!
MACSEN SOFTWARE
MACSEN SOFTWARE
B
C
CENTRAL
S

Merged together

An inveluable utility for your QL – mail merge written by ***Don McAllister***

Although it is possible to print out addresses etc from *Archive* files, using the *Archive* programming language, it is extremely difficult to construct documents for the purpose of, say, sending standard letters to all of the addresses on a customer database This utility program enables the user to use the facilities of *Quill* to construct a document and then, once completed, merge the document together with an *Archive* file to produce such things as mail shots, reminders, newsletters, invitations, etc, easily and quickly

The program works by reading individual lines of text from the *Quill* document file and then printing each one in turn When the first line to be replaced is reached (normally the first line of the address) the program then reads a line of text from the *Archive* file and prints it in the original's place. In its present form, the program is designed for use with a database of addresses but, because of the use of Superbasic procedures, it would be possible to modify it for any other application.

Firstly, you must prepare your *Quill* document. The document to be used is constructed in the normal manner but bearing in mind the following points:

1 The address to be replaced should be entered, in full, at the position you wish it to appear on each document (normally on the left hand side)

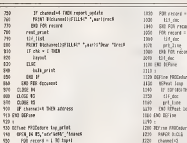
2 As the program deletes each complete replacement address line from the original document, no other information should be present on the same lines as the replacement address (such as the date or reference numbers).

Once the document is finished a careful note must be made of the following parameters, which are required by the program. The *Upper Margin Length* – as determined by the *Design* command of *Quill* The line no of *Address Start* – as given by *Status* area of *Quill*. *No of Lines in Address* – this figure should be the same as the number of lines to each address record in the *Archive* file The *Length of Gap before Name* – the number of *Quill* lines in the gap between the last line of the replacement address and the position of the salutation name to be replaced (Dear Mr X ! ! !) Finally the *Width of Margin* – the position of the first character of the address as given by the *Ruler* area of Quill

Now create your Print document. To facilitate using the document in this program a copy should be printed to a file using the *Print* command of *Quill*. This will give the file the file name *extension_lis*, and this is the source file for the program The document should also be saved as an ordinary *Quill_doc*, using the *Save* command, for future amendments

Next week, how to prepare your *Archive* files, and the remainder of the SuperBasic listing.

```
100 REMark ****************************************
110 REMark ********   ADDRESS MERGE   ********
120 REMark *****   D.McAllister 1984   *****
130 REMark ****************************************
140 MODE 4
150 start
160 :
170 DEFine PROCedure screen_display
180   PAPER 4
190   CLS
200   BLOCK 300,87,70,10,0
210   BLOCK 300,87,60,5,2
220   BLOCK 300,54,70,103,0
230   BLOCK 300,54,60,98,2
240   BLOCK 250,27,97,172,0
250   BLOCK 250,27,92,167,6
260   INK 0:LINE  36,3 TO 34,3 TO 34,16 TO 127,
     16 TO 127,3 TO 36,3
270 END DEFine
280 :
290 DEFine PROCedure start
300 screen_display
310   INK 7:PAPER 2,:CSIZE 3,1
320   AT 1,8:PRINT "MAIL MERGE"
330   CSIZE 2,0: AT 7,8:PRINT  D.McALLISTER 1984"
340   PAPER 4:INK 0
350   CSIZE 1,0:AT 17,16:PRINT "PRESS ANY KEY TO
     START":PAUSE
360   file
370 END DEFine
380 :
390 DEFine PROCedure file
400   screen_display
410   CSIZE 0,0
420   INK 7:PAPER 2: AT 1,22:PRINT " QUILL DOCUMENT PARAMETERS"
430   AT 10,23:PRINT "ARCHIVE FILE PARAMETERS"
440   INK 0:  AT 2,16:INPUT;"Which drive is Quill document on ?:-  ";d$
450   AT 3,16:INPUT "Quill document name ?:-  ";name$
460   AT 4,16:INPUT "Upper margin length ?:-  ";m
470   AT 5,16:INPUT;"Quill line No. of address start ?:-  ";l:LET top=
     (l+m)-1
480   AT 6,16:INPUT "Number of lines in address ?:-  ";gap
490   AT 7,16:INPUT "Length of gap before name ?:-  ";rest
500   AT 8,16:INPUT "Width of margin ?:-  ";mar
510   INK 0:AT 11,16:INPUT "Which drive is Archive file on ?:-  ";e$
520   AT 12,16:INPUT "Archive file name ?:-  ";file$
530   AT 13,16:INPUT "Number of addresses in file ?:-  ";dbase
540   PAPER 4:INK 0:AT 17,20:  PRINT " To initiate print run - press f1"
550   AT 18,18:PRINT "To check layout - press any other key"
560   output = CODE(INKEY$(-1))
570    IF output = 232 THEN
580      channel = 4
590      construct
600      address
610    ELSE
620      check_run
630    END IF
640 END DEFine
650 :
660 DEFine PROCedure construct
670   OPEN_IN #3,'mdv'&e$&'_'&file$
680   OPEN #4,ser1
690   tlf_list
700     FOR document= 1 TO dbase
710       IF channel=4 THEN report
720       top_print
730         FOR record= 1 TO gap
740          tlf_list
```



```
750         IF channel=4 THEN report_update
760         PRINT #(channel);FILL$(" ",mar);rec$
770        END FOR record
780      rest_print
790      tlf_list
800      PRINT #(channel);FILL$(" ",mar);'Dear ';rec$
810      IF chk = 1 THEN
820        layout
830      ELSE
840        bulk_print
850      END IF
860    END FOR document
870   CLOSE #4
880   CLOSE #3
890   CLOSE #5
900   IF channel=4 THEN address
910 END DEFine
920 :
930 DEFine PROCedure top_print
940   OPEN_IN #5,'mdv'&d$&'_'&name$
950     FOR record = 1 TO top+1
960       tlf_doc
970       prt_line
980     END FOR record
990 END DEFine
1000 :
1010 DEFine PROCedure rest_print
1020   FOR record = 1 TO gap
1030     tlf_doc
1040   END FOR record
1050   FOR record = 1 TO rest
1060     tlf_doc
1070     prt_line
1080   END FOR record
1090   tlf_doc
1100 END DEFine
1110 :
1120 DEFine PROCedure bulk_print
1130   REPeat loop
1140    IF EOF(#5)THEN EXIT loop
1150     tlf_doc
1160     prt_line
1170   END REPeat loop
1180 END DEFine
1190 :
1200 DEFine PROCedure check_run
1210   PAPER 0:CLS
1220   channel=2
1230   hold_variable = dbase
1240   dbase = 1
1250   chk = 1
1260   construct
1270   chk = 0
1280   PAPER 2:INK 7
```



FOR DRAGON AND TANDY USERS

SATURDAY 30TH AND SUNDAY 31ST MARCH
THE ROYAL HORTICULTURAL HALLS
10 A.M. UNTIL 6 P.M.

Everyone said the first show was good!
"Over 7,000 people attended ... queues formed early ... "Dragon User, Jan 85.
"The show was a tremendous success" Dragon Users Group.
"Many thanks for the very worthwhile 6809 show" Grosvenor Software.

This show will be even better!!
Even more to see and choose from. The very latest **hardware, software, interfaces** and **peripherals** will be there together with all your old favourites. Your chance to get up to date, try and buy all thats new. And pick up some **amazing bargains**.

Over 60 companies and organisations will be exhibiting with **special offers** on their products.

We'll also be organising events and competitions with **lots of prizes**. The manufacturers will be staffing **advice centres** to help with all your queries.

Large gangways and spacious rest areas will make sure you can see everything and sit in comfort when you want. The second 6809 Colour Show is a **family** show, a good day out.

HOW TO GET THERE

The Royal Horticultural Halls are just off Victoria Street a few minutes walk from Victoria or Parliament Square.

Buses 11, 24, 29, 70, 76 and 88 run up Victoria Street.

Underground stations; St. James Park (District and Circle lines), Victoria (District, Circle and Victoria lines).

There is an NCP car park in Abingdon Street, a few minutes away.

This exhibition is organised by:
Computer Marketplace (Exhibitions) Ltd.,
Part of the Rushworth Dales Group,
20 Orange Street,
LONDON WC2H 7ED

To. Computer Marketplace (Exhibitions) Ltd., 20 Orange Street, London WC2H 7ED

Please rush me 'fast lane' tickets for the Second 6809 Colour Show.
☐ (Qty) Adult tickets at £2.00 ☐ (Qty) Under 12 year old tickets at £1.00

I enclose cheque/P.O to the value of £______ or debit my Access/Diner/American Express card
No ______ Signature ______
Name ______
Address ______
Postcode ______ Telephone ______

6809 is the registered name of Motorola Ltd

Future perfect?

The mysteries of the Tarot explained on the BBC B

by Robert Watson

This program is designed to simulate a popular type of read of the Tarot deck used by gypsies and computer programmers for centuries.

The 22 cards of the Major Arcana are complicated designs, but with basic ideas behind them, so I have redesigned the deck using simpler symbols for each, eg, The Emperor is symbolised by a Sceptre.

The separate cards are drawn by 22 different subroutines of varying length and complexity, the line number for each routine being held in a string Array, along with the name for the card.

Run the program and your BBC will display the titles for the 22 cards of the Major Arcana, along with their numbers (0-21). Press a key when you have read these. The Tarot is explained so follow the prompts from here.

The 10 cards of this particular deal will then be spread on the screen. In a couple of seconds, these will then clear, and the 10 pictorial cards will be displayed singly. After this an analysis of the cards will be given.

At this point either press Escape to read the above instructions, or press any key for another deal. The '£' signs in the listing should be entered as '#'.

You are advised not to take any predictions too seriously!

```
10MODE7:ONERRORRUN
20VDU23;8202;0;0;0;:*FX11
30DIMT$(21),N$(21),card$(10)
40PROCset
50PROCa PROCins:REPEAT:MODE5:VDU23;8202;0;0;0;
60PROCdeal PROCkey:VDU4:COLOUR1:CLS:PROCcards:MODE7:PROCinl
70UNTIL0
80:
90DEFPROCcard
100VDU24,400;300;800;900;18,0,135,16
110VDU24,416;316;824;984;18,0,128,16
120VDU24,432;332;808;968;18,0,135,16
130VDU29,432;332;:MOVE0,0
140ENDPROC
150:
160DEFPROCkey:*FX21,0
170REPEATUNTILINKEY(700):GCOL0,131:CLG:VDU20
180ENDPROC
190:
200DEFPROCset
210RESTORE240
220FORT%=0TO21:READT$(T%):NEXT
230ENDPROC
240DATA"THE FOOL,370"
250DATA"THE JUGGLER,700"
260DATA"HIGH PRIESTESS,930"
270DATA"THE EMPRESS,1030"
280DATA"THE EMPEROR,1150"
290DATA"THE POPE,1430"
300:
310DATA"THE LOVERS,1290"
320DATA"THE CHARIOT,1500"
330DATA"JUSTICE,1700"
340DATA"THE HERMIT,1820"
350DATA"WHEEL OF FORTUNE,2040"
360DATA"STRENGTH,2170"
370DATA"HANGED MAN,2300"
380DATA"DEATH,2370"
390DATA"TEMPERANCE,2530"
400DATA"THE DEVIL,2630"
410DATA"LIGHTNING TOWER,2740"
420DATA"THE STAR,2870"
430DATA"THE MOON,2930"
440DATA"THE SUN,3010"
450DATA"JUDGEMENT,3080"
460DATA"THE WORLD,3170"
470:
480DEFPROCcirc(X%,Y%,RX%,RY%)
490MOVEX%,Y%
500FORN=0TO2*PI+0.1STEP.1
510X=SIN(N)*RX%+X%:Y=COS(N)*RY%+Y%
520MOVEX%,Y%:PLOT85,X,Y:NEXT
530ENDPROC
540:
550DEFPROCtri(X%,Y%,X1%,Y1%,X2%,Y2%)
560MOVEX%,Y%:MOVEX1%,Y1%:PLOT85,X2%,Y2%:ENDPROC
570REM FOOL
580VDU19,2,4;0;
590GCOL0,0
600PROCtri(0,0,0,830,370,0)
610GCOL0,1
620PROCtri(40,60,50,200,30,120)
630PROCtri(60,200,120,300,180,200)
640PROCtri(100,60,150,300,200,100)
650GCOL0,2
660PROCtri(200,100,100,140,240,260)
670PROCtri(200,100,200,60,240,260)
680PROCtri(240,200,200,300,200,300)
690PROCtri(200,150,200,500,320,400)
700GCOL0,1
710PROCtri(100,60,260,60,200,100)
720GCOL0,2
730PROCcirc(40,80,30,20)
740GCOL0,1
750PROCcirc(340,40,20,50)
760PROCkey
770RETURN
780REM MAGI
790GCOL0,1
800PROCtri(0,200,0,200,370,200)
810PROCtri(0,200,370,200,370,200)
820PROCtri(50,0,100,0,50,200)
830PROCtri(50,200,100,200,100,0)
840PROCtri(290,0,340,0,290,300)
850PROCtri(340,0,340,300,290,200)
860GCOL0,2
870FORX%=80TO300STEP140
880PROCcirc(X%,300,50,50)
890NEXT
900PROCcirc(190,450,50,50)
910PROCkey
920RETURN
930REM PRIESTESS
940VDU19,1,5;0;
950GCOL0,1
960PROCcirc(190,0,190,500)
970GCOL0,2
980FORX%=20TO340STEP40
990PROCtri(X%,0,X%+40,0,X%+15,40)
1000NEXT
1010PROCkey
1020RETURN
1030REM EMPRESS
1040VDU19,1,2;0;
1050GCOL0,1
1060PROCtri(140,100,240,100,190,500)
1070PROCtri(50,100,140,100,50,290)
1080PROCtri(240,100,330,100,330,200)
1090GCOL0,2
1100PROCcirc(190,500,20,20)
1110PROCcirc(50,290,20,20)
1120PROCcirc(330,290,30,20)
1130PROCkey
1140RETURN
1150REM EMPEROR
1160VDU19,1,3;0;
1170GCOL0,2
1180PROCtri(190,50,210,50,190,400)
1190PROCtri(210,50,210,400,190,400)
1200PROCcirc(200,384,30,50)
1210GCOL0,1
1220PROCcirc(200,454,30,30)
1230GCOL0,0
1240FORX%=340TO50STEP-10
1250MOVE190,X%:DRAW210,X%
1260NEXT
1270PROCkey
1280RETURN
1290REM LOVERS
1300GCOL0,1
1310PROCcirc(100,100,90,80)
1320PROCcirc(280,100,80,80)
1330MOVE100,100:DRAW100,300:DRAW50,200:MOVE100,300:DRAW150,200
1340MOVE280,100:DRAW280,300:MOVE240,200:DRAW320,250
1350GCOL0,3
1360PROCcirc(100,100,70,70)
1370PROCcirc(280,100,70,70)
1380GCOL0,2
1390PROCtri(50,80,10,150,300,120)
1400PROCtri(360,150,350,80,30,80)
1410PROCkey
1420RETURN
1430REM POPE
1440VDU19,1,4;0;
1450GCOL0,1
1460PROCtri(170,50,210,50,170,290)
1470PROCtri(210,50,210,450,170,450)
1480PROCtri(30,300,30,340,350,340)
1490PROCtri(350,340,350,300,30,300)
1500PROCcirc(190,430,40,70)
1510GCOL0,3
1520PROCcirc(190,230,90,30)
1530PROCkey
1540RETURN
1550REM CHARIOT
1560GCOL0,1
1570PROCtri(0,0,0,100,500,100)
1580PROCtri(500,100,500,0,0,0)
1590GCOL0,2
1600PROCtri(100,150,100,200,300,300)
1610PROCtri(100,150,300,200,300,150)
1620GCOL0,0
1630PROCcirc(200,150,80,80)
1640GCOL0,1
1650PROCcirc(200,150,40,80)
1660GCOL0,0
1670MOVE0,170:DRAW330,170
1680PROCkey
1690RETURN
1700REM JUSTICE
1710GCOL0,2
1720PROCcirc(50,250,70,50)
1730PROCcirc(330,250,70,30)
1740PROCcirc(190,400,40,40)
1750GCOL0,3
1760PROCtri(0,250,0,300,500,250)
1770PROCtri(500,250,300,500,0,300)
1780GCOL0,2
1790MOVE50,250:DRAW50,400:DRAW330,400:DRAW330,250
1800PROCkey
1810RETURN
1820REM HERMIT
1830GCOL0,2
1840PROCtri(100,100,100,400,290,400)
```

```
1850PROCtri(100,100,290,100,290,400)
1860PROCcirc(230,440,40,40)
1870GCOL0,3
1880PROCcirc(200,460,25,22)
1890PROCtri(120,120,120,300,270,300)
1900PROCtri(120,120,270,120,270,300)
1910GCOL0,0
1920PROCtri(190,120,190,310,210,310)
1930PROCtri(190,120,210,120,210,310)
1940GCOL0,2
1950PROCcirc(200,330,20,40)
1960GCOL0,1
1970PROCcirc(300,320,10,20)
1980GCOL0,2
1990FORDX=310TO120STEP-20
2000MOVE120,DX:DRAW270,DX
2010NEXT
2020PROCkey
2030RETURN
2040REM WHEEL
2050VDU19,1,3;0;
2060GCOL0,1
2070PROCcirc(190,360,130,130)
2080GCOL0,3
2090PROCcirc(190,360,140,140)
2100GCOL0,2
2110MOVE190,360
2120FORA=0TO2*PI STEP .3
2130X=SIN(A)*140+190:Y=COS(A)*140+260
2140MOVE190,360:DRAWX,Y:NEXT
2150PROCkey
2160RETURN
2170REM STRENGTH
2180GCOL0,1
2190PROCtri(0,0,0,300,300,300)
2200PROCtri(0,0,300,0,300,300)
2210GCOL0,2
2220FORAX=300TO0STEP-50
2230MOVE0,AX:DRAW300,AX:NEXT
2240FORAX=0TO300STEP100
2250MOVEAX,300:DRAWAX,250:NEXT
2260PROCkey
2270RETURN
2280REM HANGED MAN
2290VDU19,1,2;0;
2300GCOL0,1
2310PROCcirc(190,300,300,30)
2320GCOL0,2
2330MOVE170,300:DRAW190,400
2340MOVE150,340:DRAW230,340
2350PROCkey
2360RETURN
2370REM DEATH
2380VDU19,1,6;0;
2390GCOL0,2
2400PROCcirc(190,400,60,130)
2410PROCcirc(190,170,20,170)
2420PROCcirc(100,900,30,40)
2430PROCcirc(270,300,20,40)
2440GCOL0,0
2450PROCcirc(190,470,40,60)
2460PROCcirc(190,300,20,70)
2470MOVE50,150:DRAW300,300
2480GCOL0,1
2490PROCtri(300,340,360,300,240,160)
2500PROCkey
2510RETURN
2520REM TEMPERANCE
2530VDU19,1,6;0;
2540GCOL0,2
2550PROCtri(100,0,300,0,200,140)
2560PROCcirc(200,100,90,130)
2570PROCcirc(200,150,60,120)
2580PROCcirc(300,300,140,80)
2590GCOL0,1
2600PROCcirc(300,300,100,60)
2610PROCkey
2620RETURN
2630REM DEVIL
2640GCOL0,1
2650PROCcirc(300,300,200,300)
2660GCOL0,3
2670PROCcirc(200,240,160,170)
2680GCOL0,2
2690FORAX=150TO250STEP10
2700MOVEAX,0:DRAWAX,60
2710NEXT
2720PROCkey
2730RETURN
2740REM LIGHTNING
2750GCOL0,1
2760FORDX=300TO0STEP-8
2770MOVE100,DX:DRAW300,DX:NEXT
2780GCOL0,0
2790PROCcirc(200,230,30,30)
2800FORDX=300TO0STEP-4
2810MOVE170,DX:DRAW230,DX:NEXT
2820GCOL0,2
2830PROCtri(200,530,350,530,300,300)
2840PROCtri(200,400,260,400,60,100)
2850PROCkey
2860RETURN
2870REM STAR
2880GCOL0,2
2890PROCtri(100,100,290,100,200,300)
2900PROCtri(100,200,290,200,200,0)
2910PROCkey
2920RETURN
2930REM MOON
2940GCOL0,129:CLG
2950GCOL0,2
2960PROCcirc(200,300,300,200)
2970GCOL0,0
2980PROCcirc(240,330,180,170)
2990PROCkey
3000RETURN
3010REM SUN
3020VDU19,1,6;0;
3030GCOL0,129:CLG
3040GCOL0,2
3050PROCcirc(150,300,190,190)
3060PROCkey
3070RETURN
3080REM JUDGEMENT
3090FORAX=0TO300STEP70
3100GCOL0,2
3110PROCtri(AX,0,AX+40,0,AX+40,300)
3120GCOL0,1
3130PROCtri(AX,0,AX+20,0,AX-10,300)
3140NEXT
3150PROCkey
3160RETURN
3170REM WORLD
3180VDU19,1,4;0;
3190VDU19,2,2;0;
3200GCOL0,1
3210PROCcirc(190,200,180,190)
3220GCOL0,3
3230FORAX=180TO20STEP-20
3240PROCcirc(190,200,AX,AX)
3250NEXT
3260PROCkey
3270RETURN
3280:
3290DEFPROCm
3300RESTORE3340
3310FORAX=0TO21:READM$(AX):NEXT
3320ENDPROC
3330:
3340DATAFOLLY
3350DATAWILL POWER
3360DATAWISDOM
3370DATAACTION
3380DATAWEALTH
3390DATAMERCY
3400DATALOVE
3410DATAWAR
3420DATAJUSTICE
3430DATACAUTION
3440DATADESTINY
3450DATADEFIANCE
3460DATASACRIFICE
3470DATACHANGE
3480DATAPATIENCE
3490DATAVIOLENCE
3500DATACALAMITY
3510DATAHOPE
3520DATADANGER
3530DATASUCCESS
3540DATARESULT
3550DATACOMPLETION
3560:
3570DEFPROCback(X%,Y%,S$)
3580GCOL0,-12,4,3
3590VDU24,X%;Y%;X%+100;Y%+200;
3600GCOL0,131:CLG:GCOL0,2
3610VDU24,X%+10;Y%+10;X%+90;Y%+190;
3620VDU24,X%+10;Y%+10;:GCOL0,130:CLG
3630FORU%=0TO190STEP16
3640MOVE0,U%:DRAW100,U%
3650MOVEU%,0:DRAWU%,190
3660NEXT:GCOL0,0:MOVE10,60:PRINTS$:VDU26:ENDPROC
3670:
3680DEFFNline(L%)
3690=LEFT$(T$(L%),"-")
3700:
3710DEFPROCdeal:VDU5
3720PROCback(300,240,"1")
3730PROCback(450,240,"2")
3740PROCback(300,480,"3")
3750PROCback(600,240,"4")
3760PROCback(450,0,"5")
3770PROCback(150,240,"6")
3780PROCback(750,0,"7")
3790PROCback(750,240,"8")
3800PROCback(750,480,"9")
3810PROCback(750,750,"1"+CHR$8+CHR$11+"0")
3820REM if you have a routine
3830REM to produce 10 totally
3840REM different random numbers
3850REM use it here!
3860FORCt=1TO10
3870card%(Ct)=RND(22)-1
3880NEXT
3890ENDPROC
3900:
3910DEFPROCh(S$,B%,C%,T%)
3920VDU141,B%,157,C%:PRINTTAB(T%)S$
3930VDU141,B%,157,C%:PRINTTAB(T%)S$
3940ENDPROC
3950:
3960:
3970DEFPROCins
3980PROCh("BBC MICRO TAROT",129,131,9)
3990FORCt=0TO21
4000VDU12,129,157,131
4010M$=STR$Ct:IFCt<10M$="0"+STR$Ct
4020PRINTM$;" "LEFT$(T$(Ct),FNline(Ct))"("M$(Ct)")"
4030NEXT
4040G%=GET
4050C$=CHR$130+CHR$157+CHR$131
4060CLS
4070PRINTC$"The TAROT is made up of 78 cards"'C$"The
se are split into two decks"'C$"Which are the Minor &
Major Arcana"
4080PRINTC$"The Major Arcana is the 21 Cards"'C$"Simu
lated by this Program"
4090PRINT'C$"The Minor Arcana,the 56 other Cards"'C$
"is the current playing deck."
4100PRINTC$"The roots of TAROT are,some people"'C$"B
elieve in Egyptian in Origin"'C$"While others believe
(I do) that the"'C$"Cards developed from the 22 path
s"'C$"of the tree_of_life in the Cabala."
4110PRINTC$"PRESS ANY KEY"
4120G%=GET:CLS
4130PROCh("INSTRUCTIONS",130,131,10)
4140PRINT''"1.Concentrate on your Question"''"2.Shuffl
e the Cards"''"3.Deal the Cards"''"4.Read the Cards"''"5
.Interpret the Cards in context!"
4150PRINT''"PRESS ANY KEY";:G%=GET:CLS
4160PRINT"CARD ORDER AND RELATION"
4170PRINT" 1.PRESENT INFLUENCE."
4180PRINT" 2.IMMEDIATE OBSTACLES."
4190PRINT" 3.SPECIFIC GOALS."
```

```
4200PRINT" 4.PAST FOUNDATION."
4210PRINT" 5.PAST EVENTS."
4220PRINT" 6.FUTURE INFLUENCE."
4230PRINT" 7.THE QUESTIONER."
4240PRINT" 8.ENVIRONMENT."
4250PRINT" 9.INNER EMOTION."
4260PRINT"10.FINAL RESULT."
4270PRINT''"PRESS ANY KEY FOR EXAMPLE DEAL":G%=GET:CL
S
4280PRINT"EXAMPLE DEAL & READ"
4290PRINT"_________________"'
4300PRINT"NO. CARD"TAB(12)"MEANING"TAB(24)"RELATED T
O"
4310PRINT"_______________________________________"
4320PRINT"01. POPE"TAB(12)"MERCY"TAB(24)"PRESENT"
4330PRINT"02. DEATH"TAB(12)"CHANGE"TAB(24)"OBSTACLES
"
4340PRINT"03. DEVIL"TAB(12)"VIOLENCE"TAB(24)"SPECIFI
C GOAL"
4350PRINT"04. STAR"TAB(12)"HOPE"TAB(24)"PAST"
4360PRINT"05. MOON"TAB(12)"DANGER"TAB(24)"EVENTS PAS
T"
4370PRINT"06. WORLD"TAB(12)"SUCCESS"TAB(24)"FUTURE"
4380PRINT"07. HOUSE"TAB(12)"CALAMITY"TAB(24)"QUESTIO
NER"
4390PRINT"08. FOOL"TAB(12)"FOLLY"TAB(24)"ENVIRONMENT
"
4410PRINT''"PRESS ANY KEY TO DEAL";:G%=GET:CLS:ENDPRO
C
4440PRINT"09. LOVERS"TAB(12)"LOVE"TAB(24)"FINAL RESU
LT"
4420DEFPROCread
4430FORE%=1TO10
4440VDU4
4450B%=card%(C%)
4460PRINTTAB(0,0)LEFT$(T$(B%),FNline(B%));"
"TAB(0,1)"("M$(B%)")
4470L%=LEN(T$(B%)):R%=FNline(B%)
4480line%=VAL(RIGHT$(T$(B%),L%-R%))
4490GOSUBline%
4500NEXT
4510ENDPROC
4520DEFPROCint:RESTORE4590
4530PRINT''"YOUR CARDS WERE"
4540PRINT"_______________"
4550FORC%=1TO10:L%=FNline(card%(C%)):READN$
4560PRINTLEFT$(T$(card%(C%)),L%)TAB(17)CHR$''"MEANING
";M$(card%(C%))
4570NEXT:PRINT"PRESS ESCAPE OR KEY"
4580G%=GET:CLS:ENDPROC
4590DATA"PRESENT INFLUENCE"
4600DATA"IMMEDIATE OBSTACLES"
4610DATA"SPECIFIC GOAL"
4620DATA"PAST FOUNDATION"
4630DATA"PAST EVENTS"
4640DATA"FUTURE INFLUENCE"
4650DATA"QUESTIONER"
4660DATA"ENVIRONMENT"
4670DATA"INNER EMOTIONS"
4680DATA"FINAL RESULT"
```


KOMPLEX
LEGEND

New wheels, John?

*Get the Popular Buggy moving on the Amstrad CPC 464 – this week **John Billingsly** shows you how*

All those Amstrad owners that have been enviously glancing at their friends' micros can stop worrying because after this week, you too can control the Popular Buggy using the CPC464.

The circuit board utilising the ULN 2803 chip, and the buggy itself are both the same as for the Commodore or BBC versions (see Vol 4 No11), only this time, we use the printer port of the Amstrad for the source of our commands.

For a circuit this simple, we use an unclad circuit board. The pins of the chip fit through the holes, and are bent outwards on the underside. To make a connection, a wire is pushed through the adjacent hole and bent over on top of the pin where it is soldered in place. Take care when soldering. Clean the iron before every joint – a quick wipe on a wet tissue will do the trick – and melt fresh solder on to the joint as you solder it. 'Tin' each wire and component before making the joint by melting fresh solder against the iron in contact with that component alone. The result should be a bright film of tin which wets each surface to be connected. Now bend the leads so that they press together, and a swift touch with the iron will result in a reliable joint. Mount the Darlington chip on the board.

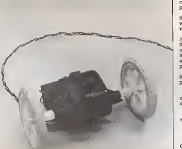
As before connect each of the Buggy motor leads to an output of the chip, left to Pin 18, right to Pin 17, the common lead going to Pin 10, together with the +3 volt point of the battery (as shown in the diagram).

The controlling inputs also make the same connections to the chip as before, but are connected to the printer port of the Amstrads via an edge connector. For making the connections, it is important to remember that the printer pins are numbered 0 to 17 from the right when looking at the port from the back of the computer with the data recorder to your left.

Connect Bit 0 to Pin 2, Bit 1 to Pin 3 and Ground to Pin 14. One other thing to do, connect pin 11 to Pin 14 on the printer port.

You should now be ready to type in the driving software given in Listings One and Two. Using Listing One, pressing the 'F' key of your computer will cause the Buggy to go forwards, 'L' will cause it to pivot left, 'R' will cause it to pivot right, and *Space* will stop it.

BIT0
BIT1
USER PORT
GND
BLACK
WHITE
CABLE
RED
MOTORS
R
L
0
+3V
BATTERY



Using Listing Two, when pressing 'G' the Buggy will remember the times which you held down the other keys, and retrace its course. Simple, isn't it?

As before, *Popular Computing Weekly* has arranged with Greenweld of Southampton to produce a kit consisting of everything you need to produce the Buggy costing £12 95, including postage and packing, but not the two 1 5 Volt penlight batteries you need to power it.

For anyone who wants to buy the parts for the Buggy themselves, here is the full parts list.

1 2-cell battery connector.

3 metres each of 3 colours of single core cables (for connection to the computer).

2 wheels

3 metres of thin single core cable for wiring

1 small unclad connector board.

1 UNL 2803 Darlington chip

1 17 way 0 1 edge connector

Greenweld are also offering an Antex CS soldering iron with solder for £5 95, to anyone buying the kit. For more tips on construction and Buggy maintainence see *Popular* Vol 4 No 11

Listing 1

```
5 REM EXAMPLE PROGRAM
6 REM   FOR AMSTRAD
10 LET A$=INKEY$
20 IF A$="r" THEN PRINT£8,CHR$(1);
30 IF A$="1" THEN PRINT£8,CHR$(2);
40 IF A$="f" THEN PRINT£8,CHR$(3);
50 IF A$=" " THEN PRINT£8,CHR$(0);
60 GOTO 10
```

Listing 2

```
5 REM FULL PROGRAM FOR
6 REM   AMSTRAD CPC464
10 DIM B(100)
20 DIM T(100)
30 LET I=0:LET N=0:LET J=0: LET K=0
100 LET A$=INKEY$
110 LET I=I+1
120 IF I>100 THEN GOTO 100
130 IF A$="" THEN GOTO 100
140 IF A$=" " THEN LET K=0
150 IF A$="1" THEN LET K=2
160 IF A$="r" THEN LET K=1
170 IF A$="f" THEN LET K=3
180 IF A$="g" THEN GOTO 300
190 LET N=N+1
200 LET B(N)=K
210 LET T(N)=I
220 PRINT£8,CHR$(K);
230 FOR J=1 TO 100:NEXT J
240 PRINT£8,CHR$(K);
250 LET J=1
260 GOTO 100
300 LET I=0
310 FOR M=1 TO N
320 FOR I=J TO T(M): NEXT J
330 PRINT£8,CHR$(K);
340 FOR J=1 TO 100
350 PRINT£8,CHR$(K);
360 NEXT M
370 PRINT£8,CHR$(K);
```

Open Forum

We are always actively seeking programs for publication – either for Open Forum, the machine pages or Star Game. When sending in a program for consideration, a clear program listing should be sent, together with, wherever possible, a saved copy on cassette. Documentation – usually not more than 1000 words – should start with a general description of the program, what it does, and then some detail of how the program itself is constructed. We pay very competitive rates, according to the length and nature of the program and the quality of the accompanying documentation.

Screen Store

on Spectrum

The Colchester Sinclair User Club had a competition amongst its members to design a *Screen$* having something to do with Christmas, and needed a method of displaying these screens without a long loading delay, so that the judges could be given every opportunity for fairness. This program solved the problem.

Once loaded, you can load up to 5 *Screen$* by pressing "*L*" to load, (from Tape or Microdrive), and use keys 1-5 to direct where the program goes in memory. You can then instantly recall the screen of your choice by pressing keys 1-5.

If you have more than one picture stored, you can press "*0*" and answer the prompt with how many pictures are stored, and the program then scans through the pictures automatically without any key presses.

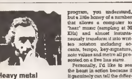
This can be used for club competitions, open evening demonstrations, etc, or just showing off your favourite pictures.

Program Notes

0 – to Scan selection
I – to view Ink Only
C – to bring back colour
S – to *Save* pictures
Space – to *Break* out of Scan mode

```
  2 CLS
  5 LET q=27: LET x=1
 10 LET a$=INKEY$
 20 IF a$>"0" AND a$<"6" THEN  GO SUB 800
 30 IF a$="l" OR a$="L" THEN  GO SUB 900
 40 IF a$="0" THEN  GO SUB 700
 50 IF INKEY$="i" OR INKEY$="I" THEN  BEEP .1,40: CLS : LET q=24: GO
 SUB 810
 60 IF INKEY$="c" OR INKEY$="C" THEN  BEEP .1,40: LET q=27: GO SUB 810
 70 IF INKEY$="s" OR INKEY$="S" THEN  GO SUB 600
 90 GO TO 10
600 INPUT #1;AT 0,0;"SAVE PICTURES FROM NUMBER > ";a: IF a<1 OR a>5
THEN  GO TO 600
610 INPUT #1;AT 1,0;"HOW MANY > ";b: IF a+b>6 OR b<0 OR b>5 THEN  GO
TO 610
620 PRINT #1;AT 0,0;" >  TO  (T)ape  or  (M)icrodrive"
```

The Music Box



Heavy metal

News from Stanford University in – where else? – California, brings us to the very forefront of computer music developments. As part of the race towards artificial intelligence, so it seems, a team of six researchers at the University's Centre for Computer Research in Music and Acoustics have come up with a score-writing program.

Not just any score-writing program, you understand, but a little honey of a number that allows a computer to 'hear' music (sampling at 30 KHz) and almost instantaneously transform it into written notation including accents, tempo, key-signature, note values and metre all presented on a five line stave.

Personally, I'd like to see the beast in action because if it genuinely can tell the difference between a crotchet and a quaver as played by imperfect human beings on imperfect instruments, then it seems to me that the age of AI is well and truly here. One wonders if this was what the Musicians' Union imagined by their slogan 'Keep Music Live'.

Meanwhile, the Japanese – in the persons of a group from Waseda University working with the Sumitomo Electric company – claim to have produced a robot capable of reading music, listening to instructions and playing keyboards. The robot has more than 50 joints controlling its ten 'fingers' and two feet and is surmounted by a miniature long-lensed TV camera which gives it an uncanny resemblance to Barry Manilow.

At a cost of 300 million yen (more than £1 million), the robot doubtless gives the term 'Heavy Metal' a new meaning. The whole thing is controlled by an amazing 17 16-bit and 50 8-bit micros connected up by extremely fast fibre optic links. I've seen pictures of the thing and, believe me, it's weird.

Anyway, back to earth with the more mundane Commodore 64 and American software house Broderbund who have announced the introduction of a package called *The Music Shop* which supports performance, sequencing, editing and sheet-music print-out – in the manner, presumably, of Island Logic's BBC package, *The Music System*. *The Music Shop* is not yet available over here and I hope to have a fuller review to follow. Meanwhile, it costs £44.95 and you could write to Broderbund at 17 Paul Drive, San Rafael, California, CA 94903-2101 USA.

Gary Herman

The Music Box is a weekly column with news, reviews and readers comments on all aspects of micros and music.

Any readers with experience of computer music making or companies with new product news are invited to write to drop a line explaining what they're doing to Gary Herman, The Music Box, 12-13 Little Newport Street, London WC2R 3LD.

```
 630 IF INKEY$="t" OR INKEY$="T" THEN  SAVE CHR$ (48+b)+" PICTURE"+CHR$
(32+(51* (b>1)))CODE 23088+a*6912,b*6912: RETURN
 640 IF INKEY$="m" OR INKEY$="M" THEN  SAVE *"m";1;CHR$ (48+b)+"
PICTURE"+CHR$ (32+(51*(b>1)))CODE 23088+a*6912,b*6912: RETURN
 650 GO TO 630
 700 INPUT "> ENTER NUMBER OF PICTURES ";p
 710 IF p<1 OR p>5 THEN  GO TO 700
 720 FOR h=1 TO p
 730 LET x=h: GO SUB 810
 740 FOR z=0 TO 500
 750 IF INKEY$=" " THEN  RETURN
 760 NEXT z
 770 NEXT h: GO TO 720
 800 LET x=VAL a$
 810 RESTORE 820: FOR n=23296 TO 23307: READ a: POKE n,a: NEXT n
 820 DATA 17,0,64,33,0,0,1,0,27,237,176,201
 825 POKE 23304,q
 830 LET s=30000+((x-1)*6912)
 840 POKE 23301,INT (s/256): POKE 23300,s-((PEEK 23301)*256)
 850 RANDOMIZE USR 23296
 860 RETURN
 900 PRINT #1;AT 0,0;"> LOAD A PICTURE, SELECT   1 - 5"
 910 LET a$=INKEY$: IF a$<"1" OR a$>"5" THEN  GO TO 910
 920 LET x=VAL a$
 930 PRINT #1;AT 0,0;"> FROM  (T)ape  or  (M)icrodrive"
 940 IF INKEY$="t" OR INKEY$="t" THEN  LOAD ""CODE 30000+((x-1)*6912):
GO SUB 81 0: RETURN
 950 IF INKEY$="m" OR INKEY$="M" THEN  GO TO 970
 960 GO TO 940
 970 INPUT AT 0,0;">  PLEASE ENTER NAME OF PICTURE    TO BE LOADED ";
BRIGHT 1;"> "; BRIGHT 0; LINE 1$
 980 IF I$="" OR LEN 1$>10 THEN  GO TO 970
 990 LOAD *"m";1;1$CODE 30000+((x-1)*6912): GO SUB 810: RETURN
```

Screen Store
by M Alston

Book Ends

Book *The Commodore 64 Adventurer* **Price** £8.95 **Micro** Commodore 64 **Supplier** Duckworth, The Old Piano Factory, 43 Gloucester Crescent, London NW1

Everyone who's ever got stuck in the Goblin's dungeon or trying to get past an immovable grate will know the desperate urge to get just a tiny clue for that one problem. The trouble, as reviewers know all too well, is that if somebody helpfully supplies you with the answers to the tricky bits, to be used only *in extremis*, the odds are that you will keep dipping furtively into it throughout the game.

Bob Chappell is supplying just such temptation with *The Commodore 64 Adventurer* which gives comprehensive solutions, and maps, for four major games: *Heroes of Karn*, *Lords of Time*, *Voodoo Castle* and *The Count*.

Following the now well-established custom of cheat-sheets, the hints and solutions are jumbled so that you needn't find one that you want to work out for yourself.

The author has taken obvious care to give away only so much with each clue, and adventurers stymied by four of the more devious packages for the CBM64 might find this a valuable standby.

Barbara Conway

Book *Soft Computing: Art and Design* **Price** £10.95 **Micro** Any **Supplier** Addison-Wesley

This book will infuriate many hardened hackers, who will claim that its author, Brian Reffin Smith, hates computers.

But the target of his attack is really our general concept of the micro, and a major part of this thought provoking polemic is an attempt to melt the reader's preconceptions towards the 'soft computing'.

Out go those currently ubiquitous trends, rigid grids on screen and structured programs deep within, the idea of of the organic computer links metaphorically to art which may actually arise out of bugs!

Those for whom computers are solely and strictly information crunchers will now be tearing their hair, but those who are not scared by words such as 'zeitgeist' will find that this mixture of aesthetics, sociology and politics will broaden the scope of their micro more than a thousand books of listings.

John Minson



Master players

The first person to have written in having solved *Pyjamarama* on the Amstrad is Kiaren Beal of Chichester who sent a very full list of how he did so. Kieren scored 89% after 4911 paces and has pronounced it the best game yet for this computer (I would agree, Kieron, if I hadn't seen Virgin's *Sorcery*)

Kieron wants to know what use the joystick, conveyor belt controller and bowl have as he has now set himself the task of scoring 100%. Well, the problem with games of this sort is that you can't really be sure that the percentage reflects anything logically, but the people who may be able to tell us are Mark Buttle and Declan Page of Earlsfield, London, who finished the Amstrad version at the end of January with 98% and 2149 paces How about it?

Sticking with the Amstrad for a moment; here's a letter from S White of Glenrothes who wants to complain about the number of bugs he/she has found in Microbyte's *Er'bert* ranging from the fact that the score resets when it reaches 10,000, the fact that Boris the gorilla causes Bert to be killed if he falls off the cubes of his own accord, Bert is sometimes thrown over the edge of the top cube for no reason at all, to the fact that you sometimes get caught in never ending games where the next level does not appear even when all cubes have changed colour

Can someone say whether this is just a duff copy? I know that these bugs are irritating, especially when you are going for a high score, but it doesn't make the game unplayable and I still think that *Er'Bert* has the best QBert graphics I've seen and is really pretty cheap for a piece of Amstrad software.

Now then back to the Spectrum (we really do need to have more stuff for the Commodore and BBC so let's hear more from you lot out there It doesn't have to be Pokes – anything from comments on you favourite games to playing tips will be welcome, as long as there are no complaints about the amount of Spectrum letters we print) Here from Larry Johnson of Redditch is a routine for endless lives on the Elite's *Fall Guy* Run this program before playing the tape.

```
10 Clear 24100
11 Load "" Code
12 Rand usr 65100
13 Load "" Code
14 Poke 44204,0
16 Rand usr 41200
```

From Duncan Parsons of Tunbridge Wells is a way to get on to any screen of *Cavelon* – hold down the row beginning QWERT and that beginning ASDF simultaneously and the message 'What do you want Chris?' should appear giving access to any screen. Duncan also gives us all the codes for the different screens of *Wheelie* by Microsphere "1 ENTER 2 WITTY 3 SHARK 4 BEBOD 5 XENON 6 ZX83B 7 ZMQL3 8 HRMEZ".

Whilst mentioning *Cavelon*, let's finish with this letter from Jim Cobey of Skegness who wants to recommend the game *BMX Stunts* by Jetsoft, who wrote both *Cavelon* and a follow up called *Cavelon 2* Jim reckons that this is the best BMX game that he has seen.

Let's get some of your high scores down this week, also, before we get going in earnest on our competition. From Dean Parsons of Tunbridge Wells comes these scores – *Chuckie Egg*, level 20 222 350, *Arcadia*, level 8 582; *Zzoom*, level 12 2500 with 498 refugees; *Kong*, level 7 12351, *Atic Atac*, 3260 and 91%. Dean also offers these scores Poke – *Sabre Wulf* poke 43575,255, poke 46520, 255 (especially for R J Bakes of Kennington) *Tutankhamun* poke 27783,0 *Lunar Jetman* poke 36956,224 poke 36946,3

Dean also wants to know whether anyone can explain what he is supposed to be doing in *Lunar Jetman*. Well, I could give you some clues, Dean, but I would like to see one of our readers, who have reached some extraordinary levels on this very difficult game, give us all some tips

Vincent Sibley and Keith Mec of 31 Connor Rd, Dagenham, Essex, have finished *Pyjamarama* with 98% on CBM 64 and 98% on the Spectrum. They will give in-depth tips to anyone who writes with a SAE If anyone has any Mikro-Gen posters, etc, then they would be pleased to have some

Andrew Hay of Sidmouth, however, must be our master games player of all time – he has finished *Pyjamarama*, 3,378 and 87% and *Underwulde* with 28%, *Knights Lore* in 35 days and 83% and *Atic Atac* in a best time of 5 06, but that's only the beginning! How about *Daley Thompson*, 277,095 on day 1 and 1, 006, 782 on day 2, *Ant Attack*, 46 762, *Chuckie Egg*, 343,440, *Jumping Jack*, 5095 and 11 hazards, *Space Invaders*, 1,673,780, *3D Combat Zone*, 107, 000, *Manic Miner*, 1,016 161 on level 580 and 40 lives left, *Zzoom*, 1,772,580 on level 46 and 643 refugees, *Arcadia* over 200,000 level 179 with 21 lives left, *Jet Pac*, 493,600 on level 139 and *Lunar Jetman*, 61,795 on level 18. I hope you write in with some *Jetman* tips, Andrew, and I shall expect to see your name in our competition.

By far the best score we've had for *Chuckie Egg* is 402,100 on level 31 on the Electron from Tony Jacques of Brighton Here are some tips "On screen 6, 14, 22 and 30 you can move from the bottom left platform to the middle by pressing jump, up and right simultaneously which gives you a boost from the bottom of the ladder and is the only way to get past the duck To get the lift on screen 31 go to the double wall on the right and press up and right together and jump On level 31, you must clear all the screen in one go (except the bottom hanging egg and the hanging egg halfway up) otherwise by the time you catch the lift, the duck is on the top platform when you there Can anyone help me on level 32 as I can't see any way of getting to the top "

Finally this week, rumours are buzzing about the quality of Incentive's version of *Moon Cresta* soon to be released Comparing the cheesy versions of *Galaxion*, etc, that abound, I had always thought it a shame that people with the programming talent of the top Spectrum games producers like Ultimate had never released versions of arcade classics Now it seems that finally someone has got round to doing so and I can't wait to see the results.

Tony Kendle

We are searching for the top UK computer games player – the best there is!

The very best of Britain's game players will get to fight it out on a number of top secret new games – scheduled for release in the autumn

Here's how it works

Study the table below and look at the column for the machine you have – these are the games you'll need to master Send your high scores in on the form below, making sure that your scores are authenticated by a responsible individual signing the form Any score achieved using technical short-cuts – such as infinite lives Pokes – will not be accepted.

Between now and September Tony Kendle will be keeping you up to date on the *Arcade Avenue* page with just who has the scores to beat. Then, in September the top three scorers on each machine will battle it out for a place in the final and the chance to be the first to play our 'top secret' games.

	Commodore	BBC	Spectrum	Amstrad
Game 1	Suicide Express	Elite	Technician Ted	Sorcery
Game 2	Beach Head	Jet Pac	3D Star Strike	Splat!
Game 3	Shoot the Rapids	Chuckie Egg	Cyclone	Manic Miner

Game Wizard Entry Form

Micro

Game 1 score

Game 2 score

Game 3 score

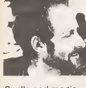
Name

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Tony Bridge's Adventure Corner



Spells and magic

Saturday 16 March was a very important date for adventurers. It was the official opening of The Adventurer's Guild in Gravesend – regular readers will remember that I mentioned it a couple of weeks ago. The Guild will, I'm sure, become an important meeting-place for adventurers and Role Players in the future, offering as it does, a source of discounted adventure software and Role-Player's aids as well.

A welcome feature is one of the first Scott Adams Adventure Centres – no more searching for that elusive Adventure International or Channel 8 program, you'll find them right here (and as readers of *MicroAdventurer* will know, Ken Matthews is one of the greatest Adams experts around). The opening day was well attended, with seasoned adventurers from all over the country, like Hugh Walker and James Fisher, in attendance as well as many local heroes (thanks, Dave, for your advice on *Sherlock!*)

Ken Matthew's Telephone Helpline is already heavily used by several hundred adventurers, who have been helped out of many a tight situation by Ken and his knowledgeable colleagues. Don't be shy – if you're stuck in an adventure give The Guild a call and you're almost certain to be given some sound advice! Local Role-Players will be pleased to know that a Dungeon is presently under construction and should be in operation soon. The Adventurer's Guild, 36 Harmer Street Gravesend Kent 0474 334008

That's an important new outlet for adventures in England – what of other countries? Mark Murphy over in Dublin, has, he says, had a burning ambition to start a software house, and has now realised that ambition. He has done something a little innovative and started a hire club for Role-playing games. Combined with membership of the hire club, comes membership of a free computer help club, which will also sometimes be able to give a discount on software. Apart from all this, Mark's company is also offering what he says are "possibly the highest royalties because we are new and not greedy" – the initial idea, says Mark, is to release a compilation tape containing six graphic and six text adventures. If you're interested in seeing your game 'in print' (check any paperwork with a solicitor) or even just in joining the club, write to Tribute, Windermere, Cherrywood Road, Loughlinstown, Co Dublin.

And Thomas Wagner writes from Germany to inform me and, through the Corner, other German adventurers, of a mail-order outlet in Augsburg. His company offers all the software and hardware that you read about in *Popular Computing Weekly*, and offers the same prices as those in Britain. Write for their 70-page catalogue to Softwareversand, PO Box 112243, D-8900 Augsburg, West Germany.

John Cousins, of BFPO 16 which coincidentally, is also in Germany, is having fun and trouble with Infocom's *Enchanter*. This is an adventure in which spells and magic play a large part, and a great number of weirdly-named spells are available (though they have to be learned as experience is gained).

John's problems start with the adventurer and the door guarded by gargoyles, flames and so on. First of all, John (and here I won't lapse into the usual Corner Code, as the solutions are rather complex), you must cast Vaxum on the adventurer *before* casting Zifmia. This befriends him, although he will now covet your possessions, in particular, the Egg. He will follow you wherever you go, with his beady eye on the Egg, and you must lead him to the door, telling him to open it. You can now sit back and watch page after page of the most glorious Infocom story-telling scroll up the screen – the end result of which is that the door turns out to be merely wooden after all, the horrible guardians being merely illusion all along. As for the Box with the rope tightly coiled around it – you'll need the Dozmo spell from the Gallery (yes, that's what else is in the Gallery, but you'll need to enter without the light to find it). Learn this spell, and it will allow you to be captured by hunched creatures, who will then take you and sacrifice you. But never mind! Oozmo will protect!

Now to the Turtle – you will, of course, need Nitfol, which allows you to do a Dr Dolittle. Tell the turtle to follow you and take it to the room with the hammers. Cast Exex on it and tell it *Go SE, GET SCROLL* and *NW*. Finally, the Temple – here you must use Oozmo and then get the Trebor spell.

If you have completed *Tombs of Xeops*, maybe you can help Dawn Woodruffe of 3 St Andrews Close Ashchurch Tewkesbury Glouce GL20 8LF. She wants to get past the Cobra, and also wants to know what the eerie smile at the same place can mean.

Help is also needed in the new QL adventure, *Zkul*, from Talent Systems of Scotland. First, how do you get the Dwarf to feed you, and how do you get back up the rope which leads down to the paraffin lamp?

Let me bring to your attention a dastardly attempt to lay bare the secrets of all the major adventures available. The first inkling of this came with a book called *The Adventurer's Companion* by Mike and Peter Gerrard, adventure's own Mafia. This subversive volume contained nothing less than the complete solutions, with maps, of four games – *The Hobbit*, *Colossal Cave*, *Pirate Adventure* and *Adventureland*.

Duckworth, the book publishers, have followed this initial release with three more. Mike Gerrard has written one, *The Spectrum Adventurer*, with solutions to four more adventures, while Bob Chappell has contributed two volumes, *The BBC Micro Adventurer*, and *The Commodore 64 Adventurer*, each containing four more "100% solutions". Each adventure is covered using the same format as many help sheets (like those from Level 9, for example). Look up the problem in a long list, then turn to the appropriate number, where the answer will be revealed. The books aren't bad value, at £3.95 each, and much of the text is drily witty, as you would expect from Gerrard and Chappell.

A few weeks ago I mentioned *Jack in Magicland*, an adventure from Turtle Software. They have kindly sent me more information, and confirmed my suspicions that this adventure, which I liked a great deal, was written for 6 to 12 year-olds, by P W Rogers, a primary school teacher. For one reason or another, the supporting package wasn't seen by me, but it includes full notes for teachers and a solution. Turtle Software, Wychwood, 40 School Road, Finstock, Oxford OX7 3DJ

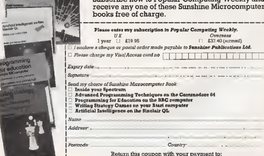
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Binary into decimal

A reader from Ludlow, Salop writes

Q **I have been trying to write a program to convert binary numbers into decimal, but with no success. I tried this program**

```
10 Input a
20 Print Bin a
30 Goto 10
```

But the computer won't accept line 20. Please tell me what is wrong and how I can correct it.

A The *Bin* clause in Spectrum Basic is purely concerned with the Data statement and is completely out of context within your statement 20. Which is why the computer has rejected it.

The following routine, whilst not very elegant, will convert binary numbers of any length (within reason) to decimal. The program does not contain any error checking statements.

```
10 Input a$
20 Let a = 0 : Let j = 0
30 For i = Len a$ TO 1 Step -1
40 Let a = a + ((2 ↑ j) * (Val a$(i To i)))
50 Let j = j + 1
60 Next i
70 Print a
```

More knowledge

Steven Ward, of Ramsgate, Kent, writes

Q **I read an article some time ago regarding the Elan Enterprise which said that it had better graphic resolution than the BBC B, it also commented its brilliant sound effects and colour.**

Not content with this knowledge I would like to know more about this brilliant (maybe) micro. So could you tell me where to write to for an information sheet (if anywhere)?

A As you know, the Enterprise is available in reasonable quantities now, although software is still in limited supply.

A number of retailers are now stocking the Enterprise so information should not be difficult to come by, and you will also be able to see the machine in action (much better than merely reading about it). Nevertheless, you can contact Enterprise on 01-739 4282.

Multitude of garbage

Robert Stalker, Bonnybridge, Stirlingshire, writes

Q **I have written three times to BBC Radio 4 but have received no reply of any kind. Last year I purchased a Basicode kit from the BBC to record their transmissions on Radio 4's Chip Shop. Success was fair, as most times errors were rather plentiful, but with a little patience programs could be amended to run on a BBC model B. This season is a different matter as all transmissions so far have turned out a multitude of garbage no-one can decipher. The new time of 01-55 and the fact that transmissions are no longer on VHF (at least in my area) could perhaps be the reason. The BBC are making no comments either way. If you could use your column to find out other readers' views and if indeed anyone has any explanations to offer I would be grateful to hear them.**

A It would be indeed interesting to hear of other readers' views on this topic, or are you all disinclined to get up at that time in the morning?

I have also tried to contact someone at the BBC for an explanation, or at least some advice that I could give, but with the same result as you . . . nothing

Serious problem

Michael West of Bingley, West Yorkshire, writes

Q **I own a Spectrum that was given to me by a relative after the guarantee had expired. It is an issue 2, 48K, the main problem with it is that it will not load programs that take up most of the memory (eg *Scrabble*). It can however load and run other 48K programs. I can also *Poke* and *Peek* the memory above 32767. I have never had any trouble loading 16K programs. *Dim A$(40000)*, *Print Len A$* gives 38976.**

Looking at the classified section, I have seen many ads for micro repairs, could you recommend one?

A The fact that your *Print Len* statement gives you the wrong answer (40000 should be printed) indicates that you do indeed have a serious problem with your machine.

There are a number of firms specialising in micro repairs. Most of them advertise in PCW. I can recommend two, Mancomp and R A Electronics. That is not to say that the other firms are not as good, it is just that I have not had any experience of using their services (or have not had any reports from people who have).

No listing

Lefevre Quentin, of Sint-Pieters-Leeuw, Belgium, writes

Q **I've designed a game and I want to make it impossible to list the program. How do I do this? I have a Spectrum.**

A A short question but rather a longer answer I am afraid. The first step is to make the program break-proof (since if it can't be broken into it cannot be listed).

This can be done by setting the DF SZ system variable to zero. Unfortunately this means that you cannot use any commands which use the message area of the screen (such as *Input* or *Save*).

You must also make certain that your program does not issue any *Scroll* messages. Having done this if anyone presses *Break* the effect will be to *New* the program. Now this is all very well but how do you stop people from using *Merge*. This can be done by including the following statements at the end of your program.

```
9900 Let PP = Peek 23863 + 256*Peek 23864
9910 Let QQ = Int(RND*256)
9920 Save "name" Code 23552 - QQ, PP - 23800 + QQ
9930 Run
```

These rather peculiar statements make it seem as if your Basic program is actually machine code. As machine code cannot be *Merged*, and you have already prevented the use of *Break* (by *Poke* 23659,0) the problem of unauthorised listing is solved.

Spectrum upgrade

S Mills, North Cheam, Surrey writes

Q **My son is interested in getting a proper keyboard for the Spectrum. I have seen several keyboards and I am not sure which one to buy, because I have interface 1 and microdrives.**

Which one would you suggest (the cost does not matter)?

A My advice would be to take advantage of Sir Clive's offer and get your Spectrum upgraded to a Spectrum+. The cost of £30, if fitted by Sinclair, is not expensive, and you have the guarantee that you will have no problems (well, not many) in fitting Interface 1 etc

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem *Peek* it to Phil Rogers and every week he will *Poke* back as many answers as he can. The address is *Peek & Poke*, *PCW*, 12-13 Little Newport Street, London WC2R 3LD

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SPECTRUM SOFTWARE for sale Mr Wimpy Eskimo Eddie and Invasion of Body Snatchers only £2.50 each originals only Tel 0723 864073 after 6pm

SPECTRUM BOOKS on machine code 9 all brand new Inc rom disassembly worth £38 £12 the lot unused white lightning £8 W H Smith Computer Cassette Recorder New £10 0843 468785

SPECTRUM SOFTWARE spawn of evil joust £3 each Booty £2 Voyage into the unknown £1 Volcano £4 50 also Ross amplifier £16 brand new unwanted Xmas present used twice Steven Holmes 12 Grove St Gorseinon Swansea AS4 2FB

SPEC/48K Recorder Interface 2 Kempston n comp compatible Tape/ Rec all Leads included 44 gtd Times Swap for Commodore 64 + C2N tape recorder Sell for £181 Tel E. K Greenhills 22334 ask for Tom

48K SPECTRUM Pascal Devpac Dungeon Adventure Hobbit many many more 5 books, Machine code and Pascal monitor lead Brilliant nearly adventure £100 onlyu Tel Exeter 881545 after 5 15 pm Denny

SPECTRUM SOFTWARE originals for sale Skooldaze Matchpoint Nightgunner Fighter Pilot Booty Valhalla Football Manager Scramble Arcadia Zzoom Heathrow ATC Cruising Space Shuttle Labyrinth £35 the lot including p&p callers £32 Brentwood 810116 after 4 30pm

48K SPECTRUM in DK Tronics keyboard on/off switch fitted £85 Tel 01-588 3451

SPECTRUM 48K Data recorder + interface I POS Keyboard 2 + microdrives spare cartridge programmable joystick interface Quickshot joysticks 2 Currah Speech unit Light pen unit. 15 original games Books + Mags £220 ono Tel 01 771 3448 after 6pm

SPECTRUM PROGRAMMABLE joystick but interface program £16 III £3 Frank n Stien £3 Amateur T V Converter £85 Tel Romford 48848

SOFTWARE FOR SPECTRUM Eye of the Star Warrior Spectipede Pop Quiz and Auto-copy all for £8 Tel 01-348 3824 and ask for Graham

48K SPECTRUM cassette recorder and software including Anarlod 2 Pyjamarama Automania Arcadia swap for Commodore 64 cassette deck and preferably joystick Tel 0665 718370 at any time

CAMBRIDGE PROGRAMME interface for Spectrum £15 Tel 05438 12055

SPECTRUM SOFTWARE for sale Alien 8 Gilt from the Gods Zaxxon US Gold £8 each Boulder Dash Pyjamarama Hunchback two only £4 each Contact F Regnard, Glastonbury Dunnings Road East Grinstead Sussex.

48K SPECTRUM, DK Tronics keyboard tape recorder + joysticks hampstead interface Currah microspeech ZX printer sound amplifier 80 s/w tapes Tel York 7862741

SPECTRUM 48K lo-Profile Keyboard Interface 1 Microdrive VTX-5000 Mbeam Kempston Joystick and Centronics interface 7 inch b/w monitor lobes of software mags books man uals cassettes recorder £450 Phone (South Ockendon) (0708) 851018

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SPECTRUM DRAWING utility for Spectrum keyboard joystick control in 8 directions + 6 commands for drawing screens under guarantee Bargain at only £3 99 inc Tel 021-338 2064

48K SPECTRUM + tape recorder £80 Tel Allen 01 241 3370

CBM 64 as new Unused Bargain £145 Tel Rainham 51811 (anytime)

SPECTRUM SOFTWARE for sale includ ing Hobbit Hurg Chase 30 Games Designer System 1600 Great Space Race and many more £35 the lot or may split all originals Mark Bradbury 5 Red Villas High Street Shipton Bellinger Nr Tidworth Hants SP9 7VB

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SPECTRUM SOFTWARE bargain pack six top programs incl Pyjamarama strangeloop Worth £88 yours for just £25 ono Tel 0748 72423 after 6pm for further details

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COMMODORE 64 Computer + Brand new disk drive + 1701 colour monitor All excellent condition Cost over £850 sell for £360 NO OFFERS Contact Bury (07048) 380

FOR SALE Commodore 64 Simons Ba sic £30 The Quill £10 Back issues of Computel wanted Tel Tyneside 4108800

VIC 20 51k Expansion plus cassette & joystick Fiben Arlon unit games books super expander cartridge £100 Tel Ludgate 2781

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CBM 64 s/w all original Tel 0884 270080 Ask for Perry

VIC 20 Cassette Recorder, 16k switch able ram Dust Cover joystick games books mags all as new £120 Tel 01-478 1500

CBM VIC 20 Introduction to Basic Part I £80 worth of s/w £120 Tel York 781 464

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CBM 64 + 184 disc drive still under Guarantee + Dicanic Musical £290 for quick sale Tel (0242) 524888

CBM 64 C2W cassette recorder quick shot joystick II v g c £220 Tel 01-349 2448

VIC 20 for sale includes cassette unit 16k ram pack joystick programmers ref erence guide mags and software good as new £100 Tel Morpeth (North land) 780394

COMMODORE 64 software to swap or sell 18 originals titles like Eureka! Zaxxon Jet Set Willy only ½ price Ring 051 327 2156 after 6pm

20K VIC 20, recorder joystick, Intro to Basic Part I and games all worth £200 will sell for £120 Ring (051) 678 7094

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CBM 64CRN l r disk drive software for sale Sold separately or all together Lots of tape and disk software Tel Ruislip 71 76865 after 5 pm All offers considered

VIC 20 I would like to exchange letters info utilities with others please send list or letter to Paul Hallas 6 Beatrice Ave Bebington Merseyside L63 5JS Thanks

ALL TOP VIC 20 games for sale Many under ½ price e.g Bongo Skramble Skyhawk all £4 Educational tapes only £5 Many books for sale Tel 01-807 1724 all originals

Acorn for Sale

BBC MICRO model B o s 12 basic 2 + advanced user guide + lots of maga zines + games inc Elite £300 NO OF FERS David Batty 132 Snapehill Road Dronfield Barnsley South Yorkshire S73 9LP Tel (0226) 758076

BBC GAMES £2 50 swap some Microwise View Disc doctor etc £15 Monitor (Microvitec) high reso lution (663 × 585) 3 months old guaranteed, plus lead £200 s/w £325. 0248 823645 before 6pm (Mr Blake)

ACORN ELECTRON including printer and joystick with eight socket rombox and £90 original software comp ete with sixteen issues Electron User mag Cost £390 accept £250 ono Tel (0523) 883187

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BBC DISC drive 40 track 100k, teac Slimline disc drive all cartridge & utility discs v g c £110 ono Tel 01 979 2254

BBC DISC s/w original only many titles Inc Elite Also original Cassette Tel South Hampton 225398

ACORN - INTERFACE, Acorn joystick lots of s/w leads mags books Acorn data recorder Tel Percival 01 902 8036

ACORN ELECTRON Computer + cas sette recorder + top quality games + mags All perfect condition bought for £270 Sell for £170 Tel 0803 82351 l

A PAIR of BBC joysticks bra brown disco three of the discs have games on them Elite Planetoid and Arcadians sell the lot for £25 ring 051 327 2155 after 6pm

BBC B Data Recorder Epsom FX80 printer Micro - Vitek tele-monitor 5 year Guarantee £750 all in Tel (0703) Southampton) 32908 will seperate

ADVENTURE HELPLINE

Fantasia Diamond on Amstrad. What do I need to get through the musical bear Mrs J North, 5 Cross Lane Huthwaite Notts NG17 2JJ

Espionage Island on Spectrum I can't get into boat, can I go Down stream What does "try drawing a map mean? P Ainsworth 51 Devon Road Newton, Chester CH2 2PX.

Mission 1 Project Volcano on Spec trum. How do I get into the lift past the maintenance droid? K. Hansen 32 Lindsey Ave Blyth Northumberland NE24 6RY

Twin Kingdom Valley on BBC How do I get the key from the dragon and where is the second castle? Paul De villain 24 Huntingtower Park Glenrothes Fife Scotland

Greedy Dwarf on Electron. How do I get the keys from the rats without being nibbled to death? Carl Barlow 16 Braeburn Court Leigh, Lancs WN7 5BE

Forest of world's end on Amstrad. How do you get into your rowing boat? J Whittaker 74 Howard Road Olton Solihull West Midlands B92 7LE

Wrath of Magra on Spectrum. I can't find carbon and saltpetre and sulpher but can get out of the first part. Mike Holohan 177 Sheridan Street Leices ter LE2 7NH.

Eureka on Spectrum. I can't get past the Brachiosaurus, I have made an axe but cannot attack Mike Holohan, 177 Sheridan Street Leicester LE2 7NH

Waxworks on Atari. How do you get out of the hall of mirrors? How do you get the rope? S Huxley 45 Forbes Close, Birchwood, Warrington WA3 6PP

Adventureland on Atari How do I get the treasure from the lava? Angela Huxley 45 Forbes Close, Birchwood Warrington WA3 6PP

Spiderman on Spectrum. I cannot find all of the web formula and cannot reach cloud or mist Michael Hart, Doncaster 863798

Crystal Theft on Amstrad How do I get past the steel door? Miss S Bishop 107 Bollington Road, Bollington Mac clesfield Cheshire SK10 5EL

Sherlock on Spectrum. How do you get into Tricia Fender and Basil Phyppe London homes? William Low County Hotel Stornaway Isle of Lewis

Castle of Terror on Commodore 64. How do you get past the knight in the library? P Arthur 280 Baldwins Lane Croxley Green, Herts (0923 770007)

COMPUTER SWAP

Computer Swap entries are limited to 30 words. Either fill in the accompanying form and send to Computer Swap *Popular Computing Weekly* 12-13 Little Newport Street London WC2R 3LD or telephone, 01-437 4343

All software offered through computer swap must be in original condition and for private sale only

It cannot be swapped

Warning: It is illegal to advertise pirated software.

COMPUTER SWAP

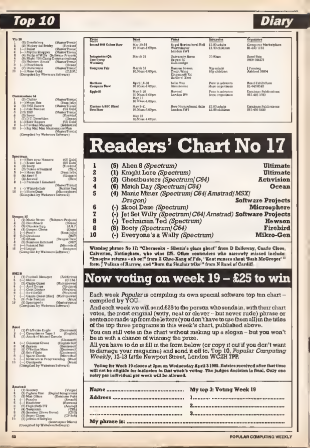
Please write your copy in capital letters on the lines below.

Name ....

Address ....

....

Telephone ....



Top 10

Vic 20
1 (5) Doodlebug (MasterTronic)
2 (2) Mickey the Bricky (Firebird)
3 (—) Bullet (MasterTronic)
4 (—) Psycho Shopper (MasterTronic)
5 (4) Perils of Willy (Software Projects)
6 (8) Flight 015 (Craig Communications)
7 (3) Phantom Attack (MasterTronic)
8 (—) Hunchback (Ocean)
9 (7) Undermine (MasterTronic)
10 (—) Maze Gold (C.S.M.)
(Compiled by Websters Software)

Commodore 64
1 (2) Chiller (MasterTronic)
2 (—) Mega Hits (Sean Jolly)
3 (6) BMX Racers (MasterTronic)
4 (—) Pole Position (US Gold)
5 (10) 180 (MasterTronic)
6 (3) Booty (Firebird)
7 (7) D T Decathlon (Ocean)
8 (—) Rock Rogers (US Gold)
9 (—) Football Manager (Addictive)
10 (—) Big Mac Mad Maintenance Man (MasterTronic)
(Compiled by Websters Software)

Spectrum
1 (—) Raid over Moscow (US Gold)
2 (—) Bruce Lee (US Gold)
3 (8) Booty (Firebird)
4 (3) Dukes of Hazzard (Elite)
5 (—) Mega Hits (Sean Jolly)
6 (4) Alien 8 (Ultimate)
7 (6) Airwolf (Elite)
8 (—) Formula 1 Simulator (MasterTronic)
9 (—) Wizards Lair (Bubble Bus)
10 (—) Skool Daze (Microsphere)
(Compiled by Websters Software)

Dragon 32
1 (1) Manic Miner (Software Projects)
2 (2) Hunchback (Ocean)
3 (8) Chuckie Egg (A & F)
4 (4) Dragon Chess (Oasis)
5 (—) Percy (Sean Jolly)
6 (10) Database (MST)
7 (6) Chess (Dragon Data)
8 (9) Business Accounts (MST)
9 (—) Buzzard Bait (Microdeal)
10 (—) Leggit (Imagine)
(Compiled by Websters Software)

BBC B
1 (1) Football Manager (Addictive)
2 (—) Ukbow (C.S.M.)
3 (3) Castle Quest (Micropower)
4 (—) Acid Drops (Firebird)
5 (—) Gold Digger (Firebird)
6 (—) Bird Strike (Firebird)
7 (—) Castle Quest (disc) (Micropower)
8 (9) Pole Position (Atari)
10 (8) Spectipede (Mastertronic)
(Compiled by Websters Software)

Atari
1 (1) F15/Strike Eagle (Centresoft)
2 (—) Compilation Tape 1 (English)
3 (2) Attack of Mutant Camels (Llamasoft)
4 (—) Colossus Chess (English Soft)
5 (4) Zaxxon (Centresoft)
6 (8) O'Reillys Mine (Centresoft)
7 (3) Solo Flight (Centresoft)
8 (—) Space Shuttle (Microdeal)
9 (—) Invitation to Programming (Atari)
10 (—) Centipede (Atari)
(Compiled by Websters Software)

Amstrad
1 (1) Sorcery (Virgin)
2 (2) Fighter Pilot (Digital Integration)
3 (8) Mini Office (Database Pub)
4 (—) Punchy (Amsoft)
5 (—) Heathrow (Hewson)
6 (9) Flight Path 737 (Anirog)
7 (4) Testmatch (CRL)
8 (5) Snooker (Steve Davis) (CDS)
9 (6) Super Chess (CP Soft)
10 (3) Jewels of Babylon (Interceptor Micro)
(Compiled by Websters Software)

Diary

Event	Dates	Venue	Admission	Organisers
Second 6502 Colour Show	Mar 30-31 10.00am-6.00pm	Royal Horticultural Hall Westminster London SW1	£2.00 adults £1.50 children	Computer Marketplace 01-930 1612
Independent QL User Group Workshop	March 31	University Arms Regent St Cambridge	10.00am	Reed Sate 0909 564271
Computer Fair	March 31 10.00am-6.00pm	Duncan Bowen Youth Wing Kingsnorth Rd Ashford Kent	50p adults 25p children	J Fanning Ashford 38894
Northern Computer Show	April 16-18 10.00am-6.00pm	Belle Vue Manchester	Free in advance from organisers	Reed Exhibitions 01-643 8040
Apple 85	May 9-10 10.00am-6.00pm May 11 10.00am-4.00pm	Novotel London W6	Free in advance from organisers	Database Publications 061-456 8383
Electron & BBC Micro User Show	May 9-11 10.00am-6.00pm May 12 10.00am-4.00pm	New Horticultural Halls London SW1	£3.00 adults £2.00 children	Database Publications 061-456 8383

Readers' Chart No 17

1	(5)	Alien 8 *(Spectrum)*	**Ultimate**
2	(1)	Knight Lore *(Spectrum)*	**Ultimate**
3	(2)	Ghostbusters *(Spectrum/C64)*	**Activision**
4	(6)	Match Day *(Spectrum/C64)*	**Ocean**
5	(4)	Manic Miner *(Spectrum/C64/Amstrad/MSX/Dragon)*	**Software Projects**
6	(-)	Skool Daze *(Spectrum)*	**Microsphere**
7	(-)	Jet Set Willy *(Spectrum/C64/Amstrad)*	**Software Projects**
8	(-)	Technician Ted *(Spectrum)*	**Hewson**
8	(8)	Booty *(Spectrum/C64)*	**Firebird**
10	(-)	Everyone's a Wally *(Spectrum)*	**Mikro-Gen**

Winning phrase No 17: "Chernenko – Siberia's glam ghost" from D Holloway, Castle Close, Calverton, Nottingham, who wins £25. Other contenders who narrowly missed include "Imagine returns – oh no!" from Z Choo-Kang of Fife, "Kent miners shout 'Bash McGregor' " from J Vulkan of Harrow, and "Burn the Sinclair trike!" from N Rond of Cardiff

Now voting on week 19 – £25 to win

Each week *Popular* is compiling its own special software top ten chart – compiled by YOU

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's chart, published above.

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize.

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to. Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP.

Voting for Week 19 closes at 2pm on Wednesday April 3 1985. Entries received after that time will not be eligible for inclusion in that week's voting. The judges decision is final. Only one entry per individual per week will be allowed.

Name .... **My top 3: Voting Week 19**
Address .... 1..
.... 2..
.... 3..
My phrase is: ....

New Releases

INFECTIOUS

Fantastic Voyage is a game that I saw at a preview months ago, but it has only just been issued. The game is another movie spin-off, but this time I don't suppose the licensing rights cost too much since the original film was a dire affair starring Raquel Welch and Donald Pleasance and has been on TV not a few times.

The basic idea of the film has been retained for the game – you are a tiny person searching through the nooks and crannies of a human body – a dangerously ill scientist – looking for eight pieces of a submarine which you must assemble in the body's brain. This is supposed to cure him, though personally I'd have thought a submarine on the brain would at least cause the occasional headache. The different screens depict, obviously, the different parts of the body and in each section a different problem awaits – in fact, wht you have is a dodge/turning game where instead of aliens you have various bodily substances. You get to blast clots, assorted growths and infections and various other nasty squishy things. Technically, it's nothing special, but the idea that it's all set in a body may amuse you.

Program *Fantastic Voyage*
Price *£6.95*
Micro *Spectrum*
Supplier *Quicksilva*
Carlton Lodge
16 Carlton
Crescent
Southampton
Hampshire
SO1 2EJ

FIRING SQUAD

Execution is a very graphic variant of that old pen and paper time-filler, *Hangman*. Where that game involves the gradual hanging of a little stick man who can't be expected to have real human emotions, here you get a little man and full firing squad.

Apart from that you get the usual game – guess a word as quickly as possible. Each guess costs you a little more time and brings death that bit nearer.

The graphics are very well done with fully animated firing squad and feverish victim, better still are the sound effects as the execution squad march crisply on one by one, click their laser weapons to attention and blast.

Obviously it's a very simple game and that might put you off, but it's well if cruelly done.

Program *Execution*
Price *£5.95*
Micro *Amstrad*
Supplier *Datacom*
407 Hockley
Centre
Hockley
Birmingham

MAGIC MAGUS

Mighty Magus is another of Quicksilva's recent batch of releases and is an arcade adventure where you move a little wizard figure up and down ladders and staircases, searching for likely-looking objects and doing battle. This may sound horribly familiar, but to be fair to the game there are a few new features – for one thing there are role playing overtones where your battle's outcome depends on your spell and fighting status.

In fact, there is quite a lot to the game and playing it will prove not to be only a matter of left, right, jump. The problem the game has is that it looks unimpressive – like a really bad *Jet Set Willy*.

Program *Might Magus*
Price *£5.95*
Micro *Spectrum*
Supplier *Quicksilva*
16 Carlton
Crescent
Southampton
Hampshire

FLIPPERS

More independent software for the Amstrad. This time it's from CP Software and is an adaptation of its *Pinball Wizard* program, widely regarded as one of the best such programs in its previous Commodore 64 and Spectrum editions.

For many the whole point of pinball is the bash thump and kick of the machine in order to win. The actual skill of flipper control is less important – this is not something you'll get from a computer version. On the other hand, you do get a game which tests your flipper adeptness.

The noises, pace and large number of things to bounce on make it pretty compulsive. Even the slightly tinny quality to the Amstrad speaker sounds appropriate.

Program *Pinball Wizard*
Price *£8.95*
Micro *Amstrad*
Supplier *CP Software*
10 Alexandra Road
Harrogate
N. Yorkshire

This Week

Program	*Type*	*Micro*	*Price*	*Supplier*
Execution	Arc	Amstrad	£5.95	Datacom
Empire	S	Amstrad	£5.95	Datacom
Interplanetary Trad	S	Amstrad	£5.95	Datacom
Pinball Wizard	S	Amstrad	£8.95	CP Software
Snail Pace	S	Amstrad	£5 64	Datacom
Wumpus Mansion	S	Amstrad	£8.86	Datacom
Quick Thinking Plus	Ed	BBC	£7.95	Mirrorsoft
Seven Up	Arc	C16	£9.50	Mavac
National Soccer	S	C16	£6.50	Atlantis
Shadowfire	Ad	Commodore 64	£9.95	Beyond
Super Pipeline II	Arc	Commodore 64	£8.90	Task Set
Colossal Cave	Ad	Dragon 64	£8.95	Compusense
Adventure Playground	Ad	Enterprise	£7.95	Enterprise
Colossal Adventure	Ad	Enterprise	£9.95	Enterprise
Fantasia Diamond	Ad	Enterprise	£7.95	Enterprise
Games Pack I	Arc	Enterprise	£5.95	Enterprise
Games Pack II	Arc	Enterprise	£5.95	Enterprise
Animal Vegetable Min	Ed	Enterprise	£7.95	Enterprise
French is Fan	Ed	Enterprise	£7.95	Enterprise

New Releases

STRIKE GOLD

Velnor's Lair, was, in my opinion, one of the best text adventures ever written for the Spectrum and more than that it was all in Basic It was a question of the judgment of pace, difficulty level and generally well-written location descriptions that all mixed together to make a thoroughly addictive game.

The game has not only been converted for the Commodore 64, it has been converted at a budget price as part of the Atlantis Gold budget range This means that you get an adventure well worth the usual £7.95 for a mere £2 99

Apart from the usual difficult puzzles and seeming dead ends, *Velnor's Lair* has an additional role playing element – you choose a character at the beginning who will be better and worse equipped to solve some of the problems and survive some of the battles

Quite apart from the price, I'd still put this one into my top ten text adventures and at



£2 99 Commodore adventurers would be crazy not to buy it.

Program *Velnor's Lair*
Price *£2 99*
Micro *Commodore 64*
Supplier *Atlantis*
19 Prebend Street
London N1 8PF

PHYSICAL

Bruce Lee is another US Gold release released on both the Commodore and Spectrum. It's a sort of *Manic Miner* with physical violence which is, I suppose, le games terms a good thing

The look of the game is pretty much classic platforms and ladders in an Eastern setting, ie, there are a couple of Dragon designs and some Chinese-looking mountains. The aim of the game is horribly familiar, collect the magic lanterns on each screen and an exit opens up – get through to the wizard who dwells within the deepest recesses of the Temple

All the above is thoroughly boring and dull, however, the game has some good points For one thing what makes each screen difficult is not bouncing and hopping (wacky) sprites but attack from a couple of really vicious martial arts experts – the ninja with their bokken sticks (bokken sticks are very threatening even though bokken looks like broken) and, even worse, the Green Yamo who runs after you trying to bash your brains in

To get through each stage you'll need to fight back – your Bruce Lee character can run, kick, chop and leap to this end To avoid the green Yamo you may also want to duck quite a lot. In fact the fighting assumes far greater importance than the collecting – the collecting bit is really something to hang the fights on

I would say a joystick is a must and if you like violent games you'll love it.

Program *Bruce Lee*
Price *£9 95*
Micro *Spectrum*
(+ CBM 64)
Supplier *US Gold*
Unit 24
Tipton Trading Estate
Bloomfield Road
Tipton
West Midlands

ATLANTIC SUB

Parky and the Yellow Submarine is the first in a series of games based around a South Atlantic penguin called Parky a cute animated character from the Hungry Horace, Cuthbert(?) school of salesmanship and media product identification.

This adventure has Parky trying to find his way through 91 caverns in the depth of the ocean seeking his twin brother Perry (same sprite, I guess) collecting useful objects as he goes and avoiding literally dozens of moving sprites.

The yellow submarine of the title is in three bits located in various sections and has to be collected in the right order before Perry can be found

Beyond that there isn't much to say about the game it is of the style that probably began with the Atari-based *Caverns of Mars* game and not greatly changed since then.

There are zillions such games about and the only virtue of this one is that 91 screens is quite a lot and parts of it are really awesomely difficult (if you think that's a good thing)

Program *Parky and the Yellow Submarine*
Price *£6 95*
Micro *Commodore 64*
Supplier *CheetahSoft*
24 Ray Street
London EC1

This Week

German is Fun	Ed	Enterprise	£7.95	Enterprise
Happy Letters	Ed	Enterprise	£7 95	Enterprise
Word Hang	Ed	Enterprise	£7.95	Enterprise
Dictator	S	Enterprise	£5.95	Enterprise
Five on a Row	S	Enterprise	£5 95	Enterprise
Heathrow ATC	S	Enterprise	£7 95	Enterprise
Steve Davis	S	Enterprise	£8 95	Enterprise
Area Radar Control	S	QL	£10 95	Shadow Soft
El Dorado	Arc	Spectrum	£1 99	Atlantis
Fantastic Voyage	Arc	Spectrum	£8 95	Quicksilva
Might Magus	Arc	Spectrum	£6 95	Quicksilva
Nicotine Nightmare	Arc	Spectrum	£2.99	Atlantis
Self Destruct	Arc	Spectrum	£2.99	Atlantis
Death Race	Arc	Vic-20	£1 99	Atlantis
Super Breakout	Arc	Vic-20	£1.99	Atlantis
The St Leger	S	Vic-20	£4.95	Mevac

Key **Ad** – adventure **S** – strategy-simulation
Arc – arcade **Ut** – Utility
Ed – education

Pick of the week

IRON DRIVE

The long-awaited *Shadowfire* is now released – it is an adventure game that uses icons to issue commands rather than text. Although the graphics are static, they are remarkably detailed.

The idea is that you control a set of adventurers whose task it is to rescue an Ambassador who is vital to the continued existence of the universe. Every command is expressed by pointing a cursor, under keyboard or joystick control, at an icon which represents the command idea, eg, to pick up something you point at a design of a hand carrying a case.

Each adventure has different strengths and weaknesses and so is more or less useful at different times and each carries different objects. Many actions require a fairly complex series of commands which can be difficult to understand – you are helped by the fact that some commands will only activate at certain times; for example, when movement becomes possible the direction arrows 'fill in' their outlines.

From time to time battles ensue and the choice and use of weapons is made from a special screen of command icons – there are options to retreat if the going gets tough. The business of knowing what character to use where, what special strengths each character has (one character, for example, can pick locks) is what forms the guts of the game.

In fact, *Shadowfire* is not really an adventure at all, it is far more like *Lords of Midnight*, particularly when played as a wargame. It's all about energy, strengths, tactics and the rest. It is graphically superb and seems very complex – it's going to be a game to savour over some months and I can't pretend to have cracked even a small percentage of the game – expect to see it in Tony Bridge's corner soon.

Program *Shadowfire*
Price *£9.95*
Micro *Commodore 64*
Supplier *Beyond*
Durrant House
Herbal Hill
London EC1R 5EJ

GOOD OLE BOYS

Let me be honest. *The Dukes of Hazzard* is one of those TV programmes that makes me want to turn over to Open University programmes on Social Geography (E107) or even *The Price is Right*. All that 'yee hah' 'good ole boy' stuff makes me ill. I have no idea if this loathing affects or is even relevant to my assessment of the computer game from *The Dukes of Hazzard* but I thought you'd better know.

The program is a road *Track and Field*. Drive your car at breakneck speed by stabbing away at the keyboard, avoid the rest of the traffic and a missile-firing helicopter by changing lanes and checking sticks of dynamite. It's a simple idea but the graphics (apart from the usual attribute problems) are good – the animation when the car spins through the air is particularly impressive. The mark of any game which involves stabbing at the keyboard is probably how much your hand hurts afterwards – mine hurt like hell.

The criticism has to be that there is nothing particularly original in the game and there really isn't all that much to the game, but for me it has the enormous virtue of not reminding me at all of the TV programme.

Program *The Dukes of Hazzard*
Price *£6.95*
Micro *Spectrum*
Supplier *Elite*
55 Bradford Street
Walsall

EDUCATION

Quick Thinking Plus is a souped-up version of the original Spectrum *Quick Thinking* program that formed part of the first batch of Mirrorsoft titles. The program is also available for the BBC and Electron.

It's worth mentioning this slightly changed version to BBC owners since it is one of the very few educational titles that makes any real attempt to entertain children into learning. Since the BBC is supposed to be, amongst other things, an educational tool, *Quick Thinking Plus* is a useful piece of software.

There are two parts to the program, *Multivaders* where invaders are blasted by the correct solution to multiplication problems.

My favourite is the other program, *Robot Tables* where the different multiplication tables are tested. This involves a very bizarre-looking robot-making machine where robots are put together – the parts shunt along a conveyor belt and in order to be assembled correctly need you to answer the multiplication table question at the bottom of the screen. The right answer gives you a finished robot, a wrong or slow answer and you get very strange objects indeed. It catches the eye and is funny; kids will love it.

Program *Quick Thinking Plus*
Price *£7.95*
Micro *BBC (and most others)*
Supplier *Mirrorsoft*
Holborn Circus
London EC1P 1DQ

Compiled by Graham Taylor

New Releases is designed to let people know what software is coming on the market. If you have a new game or utility which you are about to release send a copy and accompanying details to New Releases, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7LD.

This Week

Atlantis 19 Prebend Street, London N1 8PF 01-226 6703 **Beyond**, Lector Court, 153 Farringdon Road, London EC1R 3AD 01-837 2899 **CP Software** 10 Alexandra Road, Harrogate, N Yorkshire HG1 5JS **Compusense** PO Box 169, 286d Green Lanes, London N13 5TN 01-882 0681 **Datacom** 4071 Hickley Centre, Birmingham B18 6NF 021 233 1800 **Enterprise** 31-37 Hoxton Street London N1 6NJ 01-739 4282 **Mavec** 101a Underdale Road, Monkmoor Shrewsbury Shropshire SY2 5EF **Mirrorsoft**, Mirror Group Holborn Circus, London EC1P 1DQ 01-353 0246 **Quicksilva** Palmerston Park House 13 Palmerston Road Southampton Hampshire SO1 1LL 0703 20169 **Shadow Soft**, 70 Gooseacre Cheddington near Leighton Buzzard, Beds 0296 668740 **Task Set** 13 High Street Bridlington YO16 4PR 0262 673798

Ziggurat

In the future

Does the 68000 32 bit chip have a future? The short answer is yes, obviously. But where? Not I venture to suggest in the home. The 68000 Family is extremely powerful and enticing (to us programmers anyway) with its 32-bit architecture, multiple registers and ability to address up to 1 megabyte of memory.

I am an experienced Z80 programmer on the Spectrum and Amstrad. I was prompted by the editorial and Sir Clive's interview in *Popular* Vol 4, No 6 into thinking that, when the new Commodore and Atari 68000 computers come out, those programmers who had learnt 68000 on the QL would have a distinct advantage over me. So I thought, 'Perhaps I should get a QL and learn 68000 so that when the 68000 computers take over from the Z80 I won't be left behind.'

However, the sales figures that are now coming out after Christmas – 200,000 Amstrads, 36% of Christmas sales to Sinclair, 25% to Commodore, 8% to Amstrad, a similar amount to Acorn and particularly the QL sales (44,300 sold so far) lead me to believe that the public does not need powerful computers. It shows that they are interested in cheap computers with reasonable specification for entertainment rather than powerful expensive computers for practical purposes.

No-one in their right mind keeps their bank statements on a computer. It's a waste of time. I keep my accounts on paper and I can update and refer to them in less time than it takes to boot up and initialise my TRS-80 III.

Computer technology in the home has far exceeded the uses people have so far contrived for its power. The only real use for computers in the home is word processing and this is uncommon because it's not usually worth the effort and has the added expense of needing a printer. The 68000 chip, its power and memory capacity are, at present, of no real value in the home. I predict that the sales of such machines will be significantly lower than the manufacturers would like. A chip with that power must have a mass storage device (Microdrives, disc, etc) the price of which has to be in the £3-400 range and the public don't want to pay that much.

The software houses know this and that is why there is little software for the QL. It's nothing to do with the processor being hard to learn after 8 bit chips. It's simply that they don't think it will sell and so they are not going to write for it because there is no money in it. I was offered by my main software house the choice of an Amstrad, QL or MSX. I knew I couldn't make any money from QL games so that was out. The MSX was nothing exciding thing in a range of different colours. The Amstrad was the only exciting thing in that it had its own monitor. Even so the Amstrad has not sold in block-buster quantities, not because it is too expensive relative to what it is, but it is simply too expensive.

The same fate will befall all 68000 computers that has befallen the QL. People are unlikely to buy a £400 computer as their first – they are far more likely to go for something like the Spectrum first and then they will realise that they do not need a 68000 computer. Computers such as the Spectrum (good and cheap) have a lot more life in them than the 68000 makers would have us believe. I am not now going to buy a QL. I will reassess the situation in six to eight months but, unless someone thinks of some incredibly useful, cheap and indispensible use for a high speed mass memory computer in the home then I think the only reason I might buy a 68000 computer is for the challenge of learning 68000 code.

Michael Fox

Puzzle

Three-sided

Puzzle No 15

I bumped into Alf the other day in the supermarket, where he is the manager. I mean 'bumped' quite literally, as unfortunately he was putting the finishing touches to a large pyramidal display of tinned fruit at the time. So, I spent the next hour helping him to rebuild his display only, rather than have one large pyramid, he decided instead to build two smaller ones. The pyramids were all 'triangular' – that is, each successive tier was in the form of a triangle of tins. So, for example, if the original pyramid had four tiers, it would have a single tin on the top, a 'triangle' of three tins in the second tier, six tins in the third and ten tins in the fourth. In this case these same 20 tins could also be rebuilt into two smaller pyramids consisting of three tiers (of ten tins) each.

However, the two pyramids that Alf and I built were of *different* sizes. What is the smallest number of tins that could have been present if all of the tins from the large display were used in building the two smaller ones?

Solution to Puzzle No 146

As there are 17 different combinations of integers which agree with the information given, there must have been this number of guesses. In essence, the problem relates to finding the number of different right triangles having integral sides, one leg of which has the value 144.

```
10 LET A=1
20 LET COUNT=0
30 LET H=SQR(A*A+144*144):LET H=VAL(STR$(H))
40 IF H=INT(H) THEN PRINT A,H:COUNT=COUNT+1:
   IF H-A=2 THEN GOTO 70
50 A=A+1
60 GOTO 30
70 PRINT:PRINT:PRINT "TOTAL NUMBER OF
   ALTERNATIVES= ";COUNT
80 END
```

The program assigns ascending integral values for the other leg of the triangle, and calculates each successive hypotenuse (equivalent to the diagonal of the lake) and tests to determine if it is integral. Acceptable sets of values are printed and the *Count* incremented by 1.

Winner of Puzzle 146

The winner is A G Badwell of Long Crendon, Buckinghamshire, who receives £10.

The Hackers







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THERE HE IS! HE'S PACKING SOME BAGS WHERE'S HE OFF TO? HE CAN'T AFFORD A HOLIDAY!
LET'S FIND OUT. GET READY TO BEAM US DOWN!
WUTCHOO JAHY, MWAN? YUNO YU DOAN GOD NO THEY STAHSHEP ENPRAZ GEEZMO!
HAVE TO BALLOON DOWN THEN. HI, CROUCHER! WHAT CHUPTO, THEN?
I'M TAKING ME TOOTHBRUSH, ME TRAVEL ALARM AND A PHOTOGRAPH OF RUBY KEELER'S NOSE FOR COLD NIGHTS. IT'S GOODBYE!
HELLO, YAKZEE, ARE YOU GOING TOO?
OFFAN HUMBRE BACK TO HONABLE MEL!
I'VE ALWAYS WANTED A RUMBER! I SAY! THIS IS A FUNNY TOOTHBRUSH!
I'M GOING TO FIND OUT WHY THE WHOLESALERS TURN THEIR HOOTERS UP AT MY PROGRAMS, NOTABLY DEUS... I'LL GIVE THEM POO TO NON-VIOLENCE! I'M GONNA BE ARMED TO THE TEETH!
THEN MAKE SURE YOU DO TAKE A TOOTHBRUSH!
SOB B-BUT...YOU CAN'T JUST LEAVE US
YOU DON'T NEED ME NOW. WELL - GOODBYE
...NOT WITHOUT A FAREWELL BOOZE-UP!
NO, I MUST NOT. YES. DID YOU SAY BOOZE? WELL, JUST A BIT LONGER, THEN...
WE'LL HAVE TO POST OURSELVES BACK. THOSE BALLOONS DIDN'T LAST LONG
I'M GONNA CHHAIN TO THE DRUGSTORE!
MUCH LATER
AN IT DOAN'T SEEM ADAYYY TOOO MUUUNCHH.
HIC! THASH IT! I VAD ME SHONOSH, ME SHEN -HIC- DOFF AND ME -BLURP- DSHRINKS - ZZ TIME TO GO!
OH 'ECK - I'M GONNA HEAVE UP!
I'M JUST STEPPING OUTSIDE - I MAY BE GONE SOME TIME - HIYO-YAKZEEEE
BUUAARRkk
DYEH HE GO! OFF INTO DE CLOWDS LAIK DE LOON RENJAH!
WHY HAS HE GOT A PIZZA ON HIS HEAD?
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